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Record

May 10, 2002

Volume 26 No. 32

Washington University in St. Louis

Hats off to today's graduates

Student speaker has visions of D.C.

By Neil Schoenherr

U.S. Sen. Hillary Rodham Clinton, D-N.Y., owes a small debt of gratitude to Eric H. Schultz. The University senior worked diligently as a research assistant for Clinton's 2000 campaign.

Schultz, who hails from Syracuse, N.Y., plans to continue a life in politics after he leaves the University. With a major in political science and a minor in writing, both in Arts & Sciences, he hopes to move to Washington, D.C., and get into the press and communications side of political life.

Schultz

"I've always been interested in politics," said Schultz, president of the University's senior class and this year's student Commencement speaker. "Being able to work on Hillary Clinton's campaign was a wonderful experience and a great introduction to professional

See **Schultz**, Page 10

FILE PHOTO/JOE ANGELES

Nearly 2,600 students will be awarded degrees at the University's 141st Commencement today. The ceremony will begin at 8:30 a.m. with the traditional academic procession into Brookings Quadrangle.

University's 141st Commencement

By Andy Clendennen

Years of hard work are about to pay off in a big way for thousands of students, as nearly 2,600 degrees will be awarded at the University's 141st Commencement today in Brookings Quadrangle.

Chancellor Mark S. Wrighton will award the degrees in the ceremony, which starts at 8:30 a.m. There are 2,590 degrees intended, of which 1,465 are undergraduate and 1,125 are graduate and professional.

Among the degrees are 385 intended doctoral degrees, including 71 doctor of philosophy degrees in the Graduate School of Arts & Sciences; nine for the doctor of science degree in the Henry Edwin Sever Institute of Technology (the graduate school of the School of Engineering and Applied Science); 197 for the juris doctoris degree in the School of Law; and 108 for the doctor of medicine degree in the School of Medicine.

In the event of rain, Commencement exercises will still take place in the Quad. If the weather turns

See **Commencement**, Page 10

Draft of mouse genome map now publicly available

By Darrell E. Ward

A draft sequence of the mouse genome — the genetic blueprint for the mouse — has been completed and now is available to the public through databases accessible on the Internet.

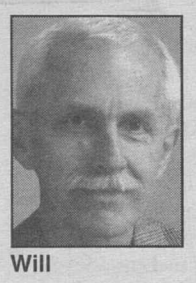
Researchers in the School of Medicine Genome Sequencing Center played a major role in the landmark event, as they did with the sequencing and mapping of the human genome.

"This is a major achievement because the mouse plays a central and fundamental role in the study of human biology and human disease," said Robert H. Waterston, M.D., Ph.D., director of the Genome Sequencing Center and a leader of the project. "In evolutionary terms, mice are closely related to humans, and they are the mammal most often used for powerful genetic experiments."

Perhaps most importantly, the mouse-genome map will help scientists better understand the human genome, he said. It will help scientists identify the location and function of genes and other important elements of the human genome, and scientists now can compare the mouse and human genomes for similarities and differences. Areas that are

See **Mouse**, Page 3

Ludmerer



Will

Ludmerer, Will elected to American Academy of Arts & Sciences

By Neil Schoenherr

Two University faculty members — Kenneth Marc Ludmerer, M.D., professor of medicine in the School of Medicine and of history in Arts & Sciences; and Clifford M. Will, Ph.D., professor and chair of the Department of Physics in Arts & Sciences — have been elected to the American Academy of Arts & Sciences.

This year's newly elected fellows join a distinguished group of some 4,000 nationwide who have been recognized for their outstanding contributions to science, scholarship, public affairs and the arts.

In addition to practicing and teaching internal medicine, Ludmerer is an expert on the history of medicine and medical education.

He first gained national attention in 1985 with his second book, *Learning to Heal: The Development of American Medical Education*, a look at the history of medical education in America.

His third book, *Time to Heal: American Medical Education From the Turn of the Century to the Era of Managed Care*, published in 1999, expands on the topic, examining further the history of American medical education. Both books were nominated for the Pulitzer Prize.

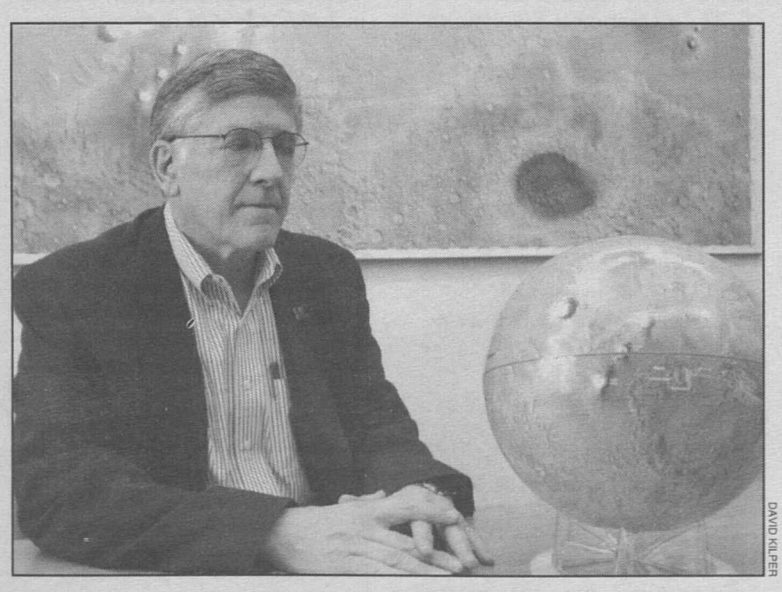
Ludmerer joined the University in 1979 as assistant professor of medicine and assistant professor of history and worked his way to full professor in both.

Among his many honors, Ludmerer has received the Daniel C. Tosteson Award for Leadership in Medical Education, the Nicholas E. Davies Memorial Award from the American College of Physicians, and a Distinguished Alumnus Award from Johns Hopkins University.

In April, Ludmerer was elected president of the American Association for the History of Medicine.

He has served on the editorial boards

See **Academy**, Page 10



DAVID KILPER

Roger Phillips, Ph.D., professor of earth and planetary sciences and director of the University's McDonnell Center for Space Sciences, both in Arts & Sciences, is the deputy team leader for the Italian Space Agency shallow subsurface sounding radar, part of the 2005 Mars Reconnaissance Orbiter.

Phillips a team member of NASA's 2005 Mars Reconnaissance Orbiter

By Tony Fitzpatrick

Roger Phillips, Ph.D., professor of earth and planetary sciences and director of the University's McDonnell Center for Space Sciences, both in Arts & Sciences, is a team member of the 2005 Mars Reconnaissance Orbiter (MRO).

The mission will carry six primary instruments designed to enhance the search for evidence of water, take images of objects about the size of a beach ball, and search for future landing sites on the Martian surface.

There are 10 scientific investigations as part of the MRO mission. The investigations selected include two principal investigator (PI) instrument investigations and eight facility team leader or member investigations.

The specific scientific objectives of the mission include: researching the processes of present and past climate change on Mars; searching the surface and shallow-subsurface for sites that show evidence of water-related activity; investigating the processes that are responsible for the formation of the layers that have been observed all over Mars; and probing the shallow-subsurface to identify regions where three-dimensional layering could indicate the presence of ice or possibly lenses of liquid water.

See **Mars**, Page 4

Edison Theatre to observe 30 years of OVATIONS!

BY LIAM OTTEN

Edison Theatre will celebrate 30 years of exuberant dance, rich musical traditions and classic and cutting-edge theater with its 2002-03 OVATIONS! Series.

Founded in 1973, Edison Theatre presents both new works and innovative interpretations of classical material by nationally and internationally renowned artists, focusing on the interdisciplinary, the multicultural and/or the experimental.

The 2002-03 season will include a range of established figures and emerging talents — from returning favorites to St. Louis premieres — as well as a new installment in the popular ovations! for young people series, which offers specially priced Saturday matinees geared to audiences of all ages.

"For 30 years, St. Louis has been challenged, educated and inspired by Edison's eclectic mix of music, dance and theater, blending the classical with the contemporary," said Charlie Robin, managing director. "The 2002-03 OVATIONS! Series represents the breadth and diversity of the past three decades while taking a firm step forward."

The season opens Sept. 28-29 with an original, co-commissioned work, ***Vo-Du Macbeth***, written by Lenwood Sloan of the National Spirit Project based in New Orleans. An adaptation of William Shakespeare's great tragedy, *Vo-Du Macbeth* is set in New Orleans at the end of the Civil War and told from the cultural viewpoint of the *gens de coulour libre*, or free people of color.

The piece is inspired by Orson Welles' landmark 1936 production for the federal Works Progress Administration, which famously set the tale in Haiti amidst African drums, dancers and costumes.

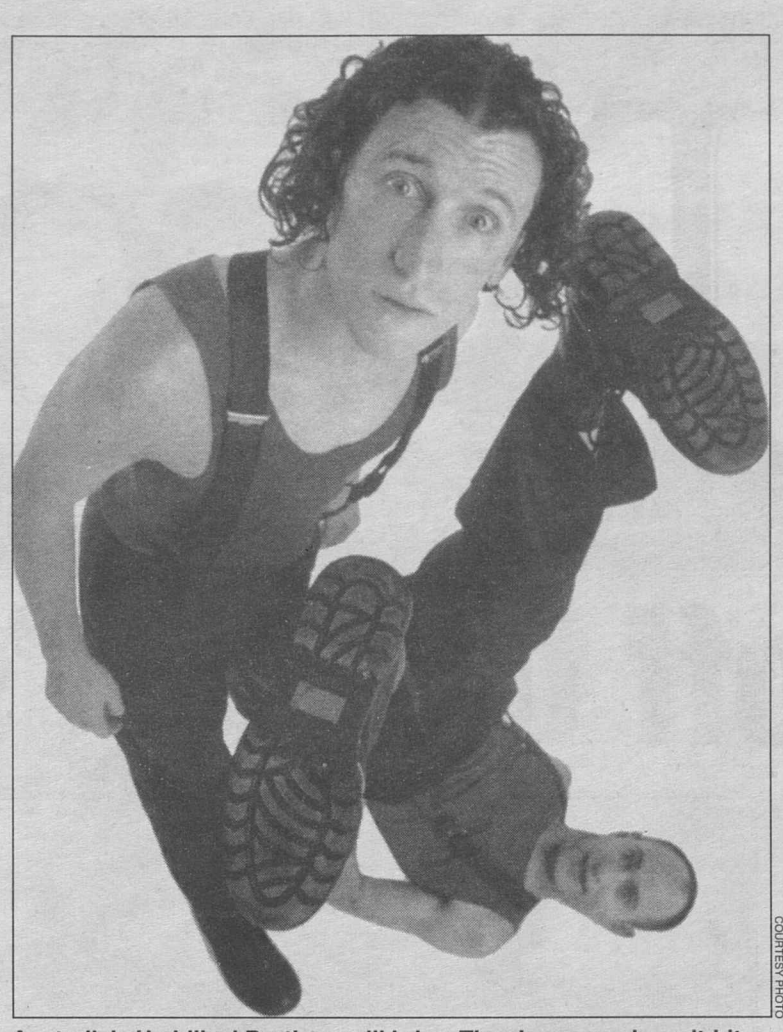
Theater lovers also can look forward to a primal, elemental take on Shakespeare's *Hamlet*, from the French expatriate ***Theatre de la Jeune Lune*** (*Theatre of the New Moon*).

On a completely different note, Australia's **Umbilical Brothers** greet the 21st century with *Thwak*, their comic, cult-hit mix of mime, mayhem and audio acrobatics. And **Spalding Gray**, the master of monologue and frequent Edison guest, returns with two shows: his classic *Swimming to Cambodia* and his latest life-update in *Black Spot*.

For music lovers, Laurie Anderson returns with her trademark combination of pop, poetry, art and technology, while Klezmer "super-group" **Isle of Klezbos** joins up with cowpoke revivalists **Cowboy Envy** for an evening of all-female vocalization.

Broadway composer and lyricist **Stephen Schwarz** dips into a songbook that ranges from *Godspell* and *Pippin* to Disney's *Pocahontas* and *The Hunchback of Notre Dame*. The Korean-born **Ahn Trio** — one of the world's finest (not to mention most glamorous) chamber ensembles — performs for both the OVATIONS! Series and ovations! for young people.

Once again, Edison Theatre will join forces with Dance St. Louis to present some of the finest dance companies working today. The **Limón Dance Company** remains dedicated to the repertoire of founder and American dance icon José Limón (1908-1972) while also commissioning new works by major contemporary choreographers including Donald McKayle and Billy Siegenfeld.



COURTESY PHOTO

Australia's Umbilical Brothers will bring *Thwak* — a comic, cult-hit mix of mime, mayhem and audio acrobatics — to the Edison Theatre 2002-03 OVATIONS! Series.

Rhythm in Shoes returns to the Edison with special musical guests the **Red Clay Ramblers** in *Rambleshoe!* — their latest collage of traditional and old-time American, English and Irish forms — while New York's **Ballet Hispanico** refashions ballet, modern and Latin dance in the image of contemporary Hispanic-American culture.

In addition to the Ahn Trio, the ovations! for young people lineup features **Kim and Reggie Harris** in *Music and the Underground Railroad*, which recalls one of the most remarkable chapters in American history through songs, stories and narratives; and **The Little Theatre of the Deaf** in *The Giving Tree & Other Stories*, inspired by Shel Silverstein's classic tale of unconditional love.

For more information or to request a season brochure, call the Edison Theatre Box Office at 935-6543.

University elects six new trustees

Six new members were elected May 3 to the University's Board of Trustees, according to Chancellor Mark S. Wrighton.

In addition, the 2002-03 board officers and executive committee members were elected, along with five second-term trustees and two former trustees. Two undergraduate and two graduate student representatives also were named to the board.

Newly elected trustees are:

- **Andrew M. Bursky**, managing director, Pegasus Capital Advisors of Cos Cob, Conn.;
- **Arnold Wayne Donald**, chairman and chief executive officer, Merisant Co. of St. Louis;
- **Priscilla Hill-Ardoin**, senior vice president-Federal Communications Commission, SBC Communications Inc. of Washington, D.C.;
- **Philip Needleman**, Ph.D., senior executive vice president, chief scientific officer and chairman, research and development, Pharmacia Corp. of Peapack, N.J.;
- **Robert J. Skandalaris**, founder, chairman and chief executive officer, Noble International Ltd. of Bloomfield Hills, Mich.; and
- **Jack E. Thomas Jr.**, president and chief executive officer, Coin Acceptors Inc., and chairman, Royal Vendors; both of St. Louis.

The trustees re-elected the following board officers:

- **John F. McDonnell**, retired chairman of the board of McDonnell Douglas Corp., as chairman of the Board of Trustees; and
- **William H. Danforth**, chancellor emeritus of the University; and **David W. Kemper**, chairman, president and chief executive officer of Commerce Bancshares Inc., as vice chairmen of the board.

Trustees re-elected to the board are:

- **Floyd E. Bloom**, chair, Department of Neuropharmacology, The Scripps Research Institute of La Jolla, Calif.;
- **C. Ray Holman**, chairman of the board, Mallinckrodt Inc. of St. Louis;
- **Walter L. Metcalfe Jr.**, chairman of the firm, Bryan Cave LLP of St. Louis;
- **Shinichiro Watari**, chairman, Cornes & Co. Ltd. of Tokyo; and
- **Howard L. Wood**, co-founder and director, Charter Communications Inc. of St. Louis.

Returning former trustees who were elected for new terms are **John Peters MacCarthy**, retired chairman of the board and chief executive officer, Boatmen's Trust Co., and **Richard J. Mahoney**, retired chairman and chief executive officer of the Monsanto Co. **Mary Dell Pritzlaff** was elected an emerita trustee.

See **Trustees**, Page 10

Keeping the *Eyes on the Prize*

Hampton archives acquired by University Libraries

University Libraries has been selected, in stiff competition against other world-class institutions, as the home and steward for the film archives of alumnus and *Eyes on the Prize* producer Henry Hampton, according to Shirley K. Baker, vice chancellor for information technology and dean of University Libraries.

"We were selected based on the interest level among our faculty and our commitment to providing access to the collection's unique and historic contents," Baker said.

Henry Hampton (1940-1998) was a St. Louis native who, after graduating from the University in 1961, went on to become one of the world's most respected documentary filmmakers.

Hampton founded and ran Blackside Productions, the United States' largest African-American owned documentary film production company. His work focused on the lives of the poor and disenfranchised and chronicled the 20th century's great political and social movements.

Best known of Hampton's 60-plus major film and media projects is the 14-part series *Eyes on the Prize*, which documented the Civil Rights Movement. The series ran in prime time on PBS stations in the 1980s, reaching an audience of more than 20 million viewers on each airing.

Eyes on the Prize II won many awards. It was hailed by *Time* magazine as "Best Documentary of the Decade" and by *The Boston Globe* as "one of the most distinguished documentary series in the history of broadcasting."

Hampton co-authored a companion volume, *Voices of Freedom: An Oral History of America's Civil Rights Movement*. His other documentaries include *The Great Depression*; *America's War on Poverty*; *I'll Make Me a World*; *Malcolm X: Make It Plain*; and *Breakthrough: The Changing Face of Science in America*.

> "The decision-makers were impressed with our faculty members' commitment to using the collection in the classroom. They wanted to know that whoever got it didn't just put it on a shelf but would also do outreach, not only on campus but locally, nationally and internationally."
>
> ANNE POSEGA

All the materials used in creating these and other Blackside films are being moved to a new, 3,000-square-foot film archive housed in the University's West Campus Library. One trailer load of materials arrived in April, and two more will arrive before summer.

The archive includes nearly 3,000 boxes of film, still photographs, scripts, storyboards, producer's notes, interviews, music, narration, posters, books and other materials — even equipment — from Blackside's internal reference library.

University Libraries are breaking new ground with this, its first-ever film archive, to be part of the Department of Special Collections. The facility is staffed by film archivist David Rowntree, whose past experience includes working as an independent filmmaker, plus a full-time assistant and student workers.

"The collection has been in storage for at least a decade and really hasn't been accessible to anyone," Rowntree said. "All that will change. We'll preserve the collection and have copies made if needed. We plan to integrate these materials and make them available for use by scholars, educators, and filmmakers at Washington University and elsewhere.

"Bringing these materials out for use is critical and essential. Already, filmmakers are asking for footage and oral historians are interested in the interviews."

The attraction is understandable, based on the collection's contents.

B.J. Johnston, associate dean for collections and departmental libraries, said "Much of the material only exists in this collection. Hampton scoured television stations, picking film clips that probably otherwise would have been trashed. Blackside also conducted many interviews, and the archives may hold the only copy."

The film archives staff will spend the summer unpacking boxes and doing preliminary work. Johnston expects the actual cataloging, processing and preservation process to take several years. However, parts of the collection will be available for scholarly and educational use this fall.

To celebrate the acquisition, the libraries will host a talk by Julian Bond Sept. 20. A longtime leader in the Civil Rights Movement, Bond narrated *Eyes on the Prize* and is chairman of the National Association for the Advancement of Colored People.

The process of acquiring this collection involved library staff and faculty members.

"We received a request for a proposal in August of 2000, with a due date just three weeks later," said Anne Posega, head of special collections. "We tapped staff members from various library units and charged them with gathering all the information and writing the proposal. Faculty members from African and Afro-American Studies, American Culture Studies, history, Film and Media Studies, English and education (all in Arts & Sciences) helped by telling us how they would use the collection, and we included some of their comments

See **Hampton**, Page 11

Record
Washington University community news

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Record (USPS 600-430; ISSN 1043-0520), Volume 26, Number 32/May 10, 2002. Published for the faculty, staff and friends of Washington University. Produced weekly during the school year, except school holidays, and monthly during June, July and August by the Office of Public Affairs, Washington University, Campus Box 1070, One Brookings Drive, St. Louis, MO 63130. Periodicals postage paid at St. Louis, MO.

Where to send address changes, corrections:

Postmaster and non-employees Record, Washington University, Campus Box 1070, One Brookings Drive, St. Louis, MO 63130.

Employees Office of Human Resources, Washington University, Campus Box 1184, One Brookings Drive, St. Louis, MO 63130.

Washington University in St. Louis

School of Medicine Update

Imaging method reveals protein interactions in animals

BY DARRELL E. WARD

Researchers in the Mallinckrodt Institute's Molecular Imaging Center in the School of Medicine have developed a method to detect the interaction of one experimental protein with another in whole living animals using positron emission tomography (PET), which may help researchers better understand tumor growth and develop new anticancer drugs.

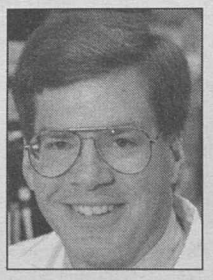
"This novel tool is an elegant combination of molecular biology, biochemistry, cancer cell biology and radiochemistry," said David Piwnica-Worms, M.D., Ph.D., professor of radiology and of molecular biology and pharmacology and principal investigator for the study.

"It offers a new way to study such things as regulatory pathways in cancer biology and the action of drugs and biologics, and it potentially could be used to prove that a drug is hitting its target in a living animal," he said. "It also may help screen for compounds that disrupt selected protein-protein interactions."

The research will be published in the May 14 issue of the *Proceedings of the National Academy of Sciences*. It demonstrates how the technique works and includes images showing that a protein known as p53 interacts with, or binds to, a protein known as large T antigen, or TAg.

The investigative team, which included Gary Luker, M.D., instructor in radiology; Vijay Sharma, Ph.D., assistant professor of radiology; and Helen Piwnica-Worms, Ph.D., professor of cell biology and of medicine, used a tumor cell line known as HeLa cells.

Using genetic engineering methods, they added three artificial genes to the cells. Two of the artificial genes produce the test proteins p53 and TAg.



Piwnica-Worms

The third artificial gene is a so-called reporter gene. It produces a protein detectable by a microPET scanner, a PET scanner scaled down for use with rats and mice.

For this study, the engineered HeLa cells were transplanted beneath the skin of immune-deficient mice. When the cells developed into tumors 5 millimeters in size, the researchers injected the mice with doxycycline, an antibiotic that activates the two artificial genes and leads to the production of the p53 and TAg proteins.

Both proteins, however, included one other element, due to the design of the engineered genes. Attached to the p53 protein was a bit of protein known as a DNA binding domain, which locks onto a specific region of DNA. The TAg protein included a bit of protein, known as an activation domain, which triggers the activation of a particular gene.

> "This novel tool is an elegant combination of molecular biology, biochemistry, cancer cell biology and radiochemistry."
> DAVID PIWNICA-WORMS

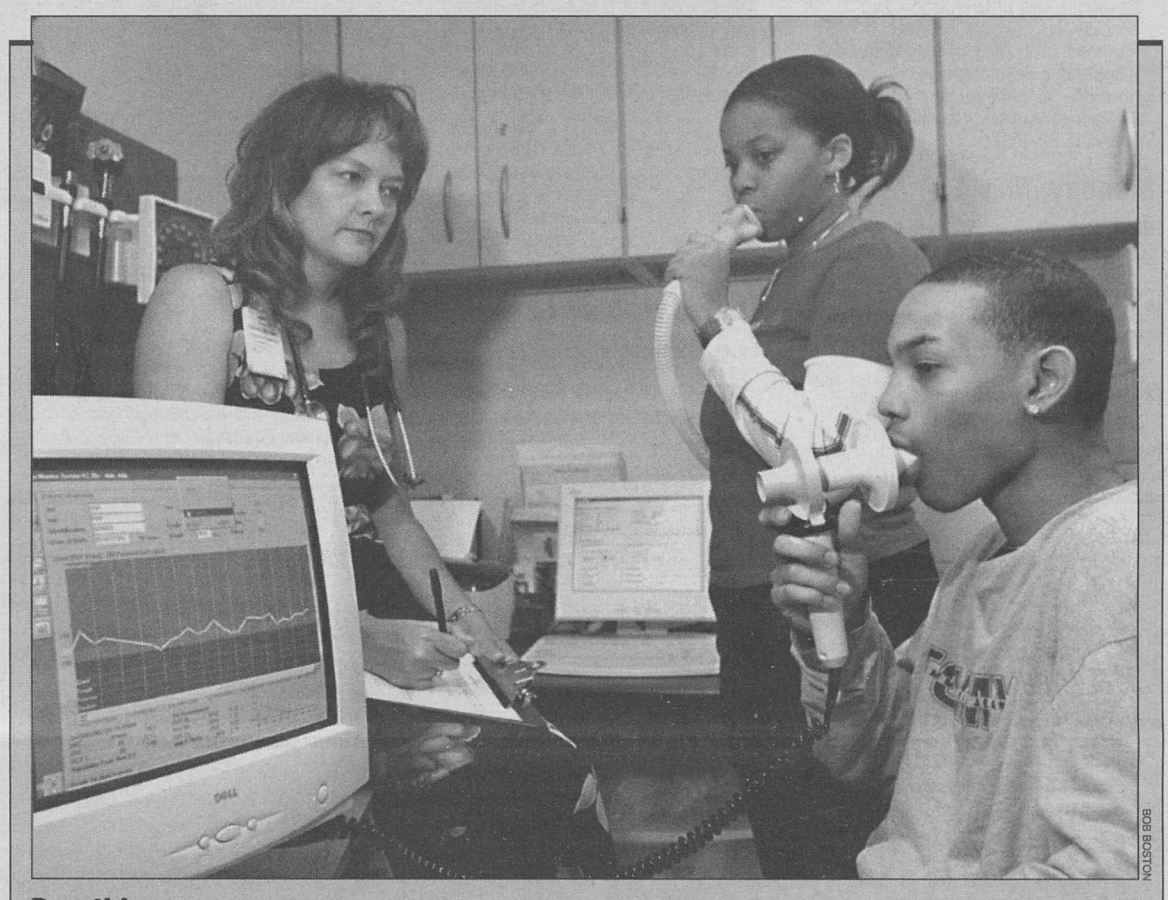
When p53 and TAg interact, they join together something like children's interlocking plastic blocks. This also brings together the DNA binding domain and the activation domain.

That, in turn, enables the DNA binding domain to lock onto and activate the third artificial gene, the reporter gene. Activation of the reporter gene results in the production of a protein that ultimately emits a signal detectable by the microPET scanner.

In the end, the PET scan shows a pale image of the mouse with bright regions where the two proteins have interacted. If the two proteins do not interact, the cascade of gene activations will not occur and no signal will be detected by the microPET scanner.

Piwnica-Worms and his colleagues now are investigating the use of a reporter gene that produces bioluminescence, which would produce a signal of light when protein interactions occur.

"We're exploring other ways of doing this to broaden its application," he said.



BOB BOSTON

Breathing easy On World Asthma Day May 7, Tina Oliver-Welker (left), clinical research coordinator in pediatrics, monitors Maya and Mikhail Culpepper as they test their lung functions. The teens are participating in the CLIC asthma study, which is examining how individual differences affect the body's response to Flovent and Singulair, the two top-selling asthma medications in the United States. CLIC is recruiting 50 more patients. For more information, call 286-1173.

Diabetes research grants available

Faculty members who conduct research in the areas of diabetes and endocrinology may apply for funding through the Diabetes Research and Training Center (DRTC) in the School of Medicine.

Researchers from the Hilltop and Medical campuses are encouraged to apply for the two-year grants, which begin Dec. 1. They will range from $20,000 to $50,000 per year.

Applications from basic science, epidemiological and behavioral science departments are particularly encouraged.

The DRTC pilot and feasibility program fosters projects required to develop preliminary data that could lead to independent research supported by the National Institutes of Health, which awards three to four such grants at the medical school annually.

Those interested must submit letters of intent to the DRTC by June 14; proposals must be submitted by Aug. 15. Both should be sent to Vicky Nordike at Campus Box 8127. For more information, call 362-8290.

Young investigators receive poster awards

Jonathan W. Heusel, M.D., Ph.D., a postdoctoral fellow and clinical pathology resident, and Jonathan J. Lam, an M.D./Ph.D. student in molecular cell biology, received two of the three Trainee Best Poster Awards at the American Society for Clinical Investigation (ASCI) and the Association of American Physicians (AAP) meeting in Chicago, which concluded April 28.

This is the first year Trainee Best Poster Awards were offered at the annual meeting. The $1,000 awards were given for the posters judged by ASCI and AAP Council members to be outstanding based on scientific novelty, quality and clarity of presentation.

Heusel works in the laboratory of Wayne Yokoyama, M.D., the Sam J. Levin and Audrey Loew Levin Professor of Medicine and Pathology, a Howard Hughes Medical Institute investigator and chief of the Division of Rheumatology.

Heusel was lead author on a poster titled "The Ly-49H activation receptor of murine natural killer cells recognizes a murine cytomegalovirus-encoded ligand." The poster described research findings that are an important advance in understanding how immune cells known as natural killer cells are activated and how they contribute to immune responses to viral infection.

Lam, who completed work on his Ph.D. in January and now is completing his clinical training at Barnes-Jewish Hospital, worked in the laboratory of Steven L. Teitelbaum, M.D., the Wilma and Roswell Messing Professor of Pathology and Immunology.

Lam was lead author on a poster titled "RANKL: RANK signaling in the osteoblast induces bone formation." The poster described research suggesting that RANKL, a substance produced in the body to stimulate bone formation and enhance bone mineral density, may serve as the basis for new drugs to treat certain bone disorders.

Central administration book fair June 4-6

The Department of Central Administration in the School of Medicine will host a book fair from 10 a.m.-3 p.m. June 4-6 on the second floor link of the Clinical Sciences Research Building. *New York Times* best sellers, children's books, photo albums and more will be discounted 30 percent to 75 percent off retail prices.

Mouse

Draft of genome map publicly available online

— from Page 1

similar in both are likely to be particularly important because evolution has retained those regions in both organisms.

The Genome Sequencing Center played a significant role in producing the mouse-genome map.

"We produced a significant amount of the raw sequence information," Waterston said. "We also helped evaluate the computer programs that assembled the sequence data, and we provided the initial map to which the sequence information was applied."

The University's team also included John D. McPherson, Ph.D., associate professor of genetics, who played a major role in the initial mapping; Lucinda L. Antonacci-Fulton, research laboratory manager in genetics, who played a major role in developing data; and Michael R. Brent, Ph.D., associate professor of computer science, of biomedical engineering and of genetics, who contributed greatly to the compter analysis.

Waterston also is leading the effort to interpret the sequence.

"This includes defining what stretches of the genome have meaning and what stretches don't; and of the parts that do have meaning, what is it that they're saying," Waterston said. "It's really like decoding a language."

At this point, the entire mouse genome has been sequenced, and about 96 percent of the sequences have been placed on the map. This draft sequence shows the order of the DNA chemical bases A, T, C and G along the 20 mouse chromosomes pairs.

The current results suggest that it is about 2.7 million base pairs in size, or about 15 percent smaller than the human genome. The human genome is 3.1 million base pairs spread out over 23 pairs of chromosomes.

> "This is a major achievement because the mouse plays a central and fundamental role in the study of human biology and human disease."
> ROBERT H. WATERSTON

The task of mapping the sequences on each of the 20 mouse chromosomes is comparable to the task of placing the street names and addresses of towns along a nearly blank map of 20 different highways. The initial map for each highway would show only certain major features such as the names of major towns and a few rivers. Researchers then would begin placing the features of the towns on the map according to their position relative to those landmarks.

Genome maps begin with major molecular landmarks identified on each chromosome, and as sequence data is obtained, computers are used to place the sequences on a chromosome relative to the molecular landmarks. When 90 percent or more of the sequences is placed on all the chromosomes, scientists say they have a draft sequence map. Small gaps still remain and refinements and adjustments must be made, just as they are likely to for a similar road map. That work already is under way for the mouse genome map.

The draft sequence was assembled by the Mouse Genome Sequencing Consortium, an international team of researchers from Washington University; the Whitehead Institute in Cambridge, Mass.; the Wellcome Trust Sanger Institute and the European Bioinformatics Institute in Hinxton, England; with funding from the National Human Genome Research Institute of the National Institutes of Health and the Wellcome Trust in the United Kingdom.

The mouse genome sequences, and a comparison between the mouse sequence and the human sequence, can be found at several Web sites, including the following: the European Bioinformatics Institute: mouse.ensembl.org; the National Center for Biotechnology Information at the National Library of Medicine: www.ncbi.nlm.nih.gov/genome/guide/mouse; and the University of California, Santa Cruz: genome.ucsc.edu.

University Events

Inorganic Nanorods • A Bitter Sweet Journey • West Nile Virus Infection

"University Events" lists a portion of the activities taking place at Washington University May 10-June 19. Visit the Web for expanded calendars for the Hilltop Campus (www.wustl.edu/calendar) and the School of Medicine (medschool.wustl.edu/calendars.html).

Lectures

Friday, May 10

9:15 a.m. Pediatric Grand Rounds. "Diffusion MR Imaging of Premature Infants." Jeffrey J. Neil, assoc. prof. of neurology, pediatrics, and radiology. Clopton Aud., 4950 Children's Place. 454-6006.

Noon. Cell biology and Physiology seminar. "The Unfolded Protein Response, Cell Differentiation, and Glucose Hemeostasis." Randal Kaufman, prof. and Howard Hughes Investigator, dept. of biological chemistry, U. of Mich., Ann Arbor. McDonnell Medical Sciences Bldg., Rm. 426. 362-4690.

Monday, May 13

Noon. Neurology and Neurological Surgery Research Seminar Series. "Transition Metals, Reactive Oxygen Species, and Neurodegeneration." Christian Sheline, research asst. prof. of neurology. Schwarz Aud., Maternity Bldg., First floor. 362-7316.

4 p.m. Chemistry seminar. "Catalytic Strategies for Synthesis and Transfer of Activated Sulfate." Thomas S. Leyh, assoc. prof. of biochemistry, Albert Einstein College of Medicine, Yeshiva U., New York. McMillen Lab., Rm. 311. 935-6530.

4 p.m. Immunology Research Seminar Series. "T Cell Tolerance, Costimulation and Survival." Pamela Ohashi, Senior Scientist, Div. of Cellular and Molecular Biology, Ontario Cancer Institute, Toronto. Eric P. Newman Education Center. 362-2763.

Tuesday, May 14

Noon. Molecular Microbiology and Microbial Pathogenesis Seminar Series. "The Link Between a *Yersinia* Transcriptional Regulator and the Host Response." Virginia Miller, prof. of molecular microbiology. Cori Aud., 4565 McKinley Ave. 362-8873.

Noon. Tuesday Conference Seminar. "Age-related White Matter Changes in Mice of Alzheimer's Disease." Victor Song, research instructor of radiology. Sponsored by the Alzheimer's Disease Research Center. Barnes-Jewish Hosp. Bldg., East Pavilion Aud. 286-2881.

4 p.m. Cancer Center Tumor Genetics Seminar Series. "Ovarian Cancer Models." Thomas C. Hamilton, senior member, medical science div., Fox Chase Cancer Center, Philadelphia. McDonnell Medical Sciences Bldg., Rm. 426. 454-8051.

Thursday, May 16

4 p.m. Chemistry seminar. Marcus Lecture. "Inorganic Nanorods: Synthesis, Properties, Applications." A. Paul Alivisatos, prof. of chemistry, U. of Calif., Berkeley. Louderman Hall, Rm. 458. 935-6530.

Friday, May 17

9:15 a.m. Pediatric Grand Rounds. Donald Thurston Memorial Lecture. "Disorders of Carbohydrate Metabolism: A Bitter Sweet Journey." Marvin Cornblath, clinical prof. of pediatrics, U. of Md., lecturer in pediatrics, Johns Hopkins U. Clopton Aud., 4950 Children's Place. 454-6006.

Noon. Cell Biology & Physiology seminar. "Regulation of mRNA Decay in Yeast by the Puf Protein Family." Wendy M. Olivas, asst. prof. of biology, U. of Mo., St. Louis. McDonnell Medical Sciences Bldg., Rm. 426. 362-2713.

4 p.m. Anatomy & Neurobiology Seminar Series. "Cooling and Other Invasive, Nondestructive Therapies for Epilepsy." Steven Rothman, Ernest and Jane G. Stein Professor of Developmental Neurology and of Developmental Pediatrics and prof. of neurobiology. McDonnell Medical Sciences Bldg., Rm. 928. 362-7043.

Monday, May 20

Noon. Neurology and Neurological Surgery Research Seminar Series. "Search for Task Control Signals in the Brain Using fMRI." Steven Peterson, J. McDonnell Professor of Cognitive Neuroscience, prof. of anatomy and neurobiology, neurology and neurological surgery and of radiology and assoc. prof. of biomedical engineering. Schwarz Aud., Maternity Bldg., First floor. 362-7316.

4 p.m. Immunology Research Seminar Series. "Is There Symmetry in T Helper Commitment?" Ken Murphy, prof. of pathology and immunology. Eric P. Newman Education Center. 362-2763.

Tuesday, May 21

Noon. Tuesday Conference Seminar. "Training Recognition Memory and Early AD: Pitfalls." Larry Jacoby, prof. of psychology. Sponsored by the Alzheimer's Disease Research Center Barnes-Jewish Hosp. Bldg., East Pavilion Aud. 286-2881.

Thursday, May 23

Noon. Genetics Seminar Series. "The Dark Side of Mouse Genetics." Greg Barsh, assoc. professor of pediatrics and genetics, Stanford University School of Medicine. McDonnell Medical Sciences Bldg., Rm. 823. 362-2139.

Friday, May 24

9:15 a.m. Pediatric Grand Rounds. "Pediatric Autoimmune Disease: Mechanisms and Therapy." Calvin B. Williams, asst. prof of pediatrics. Clopton Aud., 4950 Children's Place 454-6006.

4 p.m. Anatomy & Neurobiology Seminar Series. "Synaptic Mechanisms That Shape the Output of the Retina." Peter Lukasiewicz, assoc. prof. of anatomy and neurobiology and of ophthalmology and visual sciences. McDonnell Medical Sciences Bldg., Rm. 928. 362-7043.

Tuesday, May 28

Noon. Tuesday Conference Seminar. "Neurobehavioral Analysis of Perinatal Brain Injury: Humans and Animal Models." C. Robert Almli, assoc. prof. of neurology and neurological surgery and of occupational therapy. Sponsored by the Alzheimer's Disease Research Center. Barnes-Jewish Hosp. Bldg., East Pavilion Aud. 286-2881.

Friday, May 31

9:15 a.m. Pediatric Grand Rounds. "Pathogenesis of West Nile Virus Infection: The Role of the Immune System in Limiting Disease." Michael Diamond, asst. prof. of medicine, molecular microbiology and of pathology and immunology. Clopton Aud., 4950 Children's Place. 454-6006.

4 p.m. Anatomy & Neurobiology Seminar Series. Lawrence Tychsen, assoc. prof. of anatomy and neurobiology, ophthalmology and visual sciences, and of pediatrics. McDonnell Medical Sciences Bldg., Rm. 928. 362-7043.

Friday, June 7

4 p.m. Anatomy and Neurobiology Seminar Series. Michael Shadlen, assoc. prof. of biophysics and physiology, U. of Wash., Seattle. McDonnell Medical Sciences Bldg., Rm. 928. 362-7043.

And more...

Wednesday, June 5

7 a.m. Continuing Medical Education Course. "The Washington Manual Comprehensive Review of Internal Medicine and Board Preparation Course." Daniel M. Goodenberger and Jason S. Goldfeder, course chairs (Continues through June 9). Eric P. Newman Education Center. 362-6891.

Commencement Week

For more information, call the Commencement Hotline at 935-4355.

Wednesday, May 8

6 p.m. Black Senior Alliance Graduation Ceremony. Reception immediately following. Location to be announced.

7:30 p.m. University College Recognition Ceremony and Reception in John E. Simon Hall Auditorium and Courtyard.

Thursday, May 9

10:30 a.m. Eliot Honors Convocation. Honoring students for academic and leadership achievements. Field House, Athletic Complex.

1:30 p.m. School of Engineering and Applied Science Recognition Ceremony in Field House, Athletic Complex.

4:30 p.m. College of Arts and Sciences Recognition Ceremony in Field House, Athletic Complex.

8:00 p.m. School of Art Recognition Ceremony in Graham Chapel.

Friday, May 10

8 a.m. Degree candidates assemble.

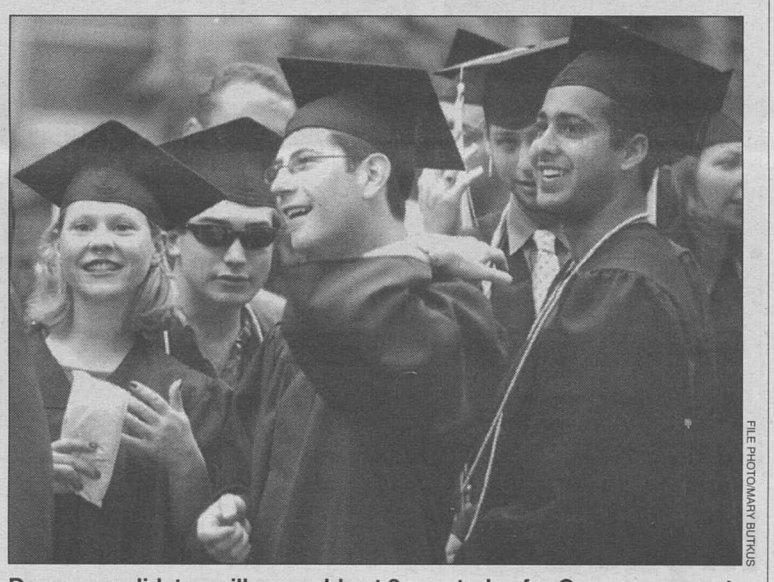
8:30 a.m. Commencement in Brookings Quadrangle.

The following programs begin immediately following the Commencement Exercises:

College of Arts and Sciences: Reception and diploma distribution in the Sally E. Strain Courtyard, between Monsanto Laboratory and the Psychology Building. Rain location: Francis Gym, Athletic Complex.

University College: Diploma distribution and reception in Ann W. Olin Women's Building Lounge.

Graduate School of Arts and Sciences: Hooding and recognition ceremony in Edison Theatre. Reception follows in Bowles Plaza and The Gargoyle, Mallinckrodt, Lower Level.



FILE PHOTO/MARY BUTKUS

Degree candidates will assemble at 8 a.m. today for Commencement.

School of Architecture: Diploma ceremony, Brookings Drive Mall. Reception follows in Givens Hall. Rain location: Graham Chapel, 3 p.m.

School of Art: Diploma distribution and reception on the Steinberg Hall terrace. Rain location: Gallery of Art, Steinberg Hall.

John M. Olin School of Business: Diploma distribution and reception in the Field House, Athletic Complex. Reception follows in John E. Simon Hall.

School of Engineering and Applied Science: Undergraduate diploma distribution in room 324 Lopata Hall. Reception follows in Lopata Gallery and Lopata Plaza between Jolley and Cupples II halls.

George Warren Brown School of Social Work: Diploma distribution in Graham Chapel. Reception follows in the Lucy and Stanley Lopata Courtyard, Goldfarb Hall.

Program in Occupational Therapy: Reception in Holmes Lounge. Diploma ceremony follows in Graham Chapel.

The following program begins at noon:

Health Administration Program: Diploma ceremony at the Sheraton West Port Hotel, Plaza Tower, East Ballroom A and B. Reception immediately following.

The following program begins at 12:30 p.m.:

School of Law: Diploma ceremony in Brookings Quadrangle. Reception follows in Anheuser-Busch Hall. Rain location: Recreational Gymnasium, Athletic Complex.

The following program begins at 1:30 p.m.:

Henry Edwin Sever Graduate School of Engineering and Applied Science: Hooding and recognition ceremony in Edison Theatre. Reception follows in Bowles Plaza. Rain location: Gallery and The Gargoyle, Mallinckrodt Lower Level.

The following programs begin at 3 p.m.:

John M. Olin School of Business: Graduate diploma and awards ceremony in the Field House, Athletic Complex. Reception follows in John E. Simon Hall.

School of Medicine: Senior program in the lecture hall, America's Center, downtown St. Louis. Reception follows in the atrium of the America's Center.

Mars

— from Page 1

Phillips is the deputy team leader for the Italian Space Agency shallow subsurface sounding radar (SHARAD). His U.S. collaborators are Jeffrey Plaut, Ph.D., of NASA's Jet Propulsion Laboratory/California Institute of Technology, Pasadena; and Bruce Campbell, Ph.D., of the Smithsonian Institution, Washington, D.C.

"The increased spatial and spectral resolution of MRO will provide an unprecedented view of Mars and allow tremendous insight into the present and past occurrence of water on the red planet," Phillips said. "The SHARAD instrument will enable the mapping of geologic features that formed by water and that are now buried hundreds of meters below the Martian surface. When integrated with other types of information, the instrument also has the potential to discover subsurface distributions of water and ice."

The two PI instrument proposals selected by Edward Weiler, Ph.D., associate administrator for space science at NASA headquarters in Washington, D.C., were judged to have the highest science value among the 26 proposals submitted to NASA.

"A new generation of reconnaissance instruments on MRO with unprecedented capabilities will pave the way for identifying the most compelling sites on Mars for sample return and ultimately for human exploration," Weiler said.

The two PI instruments selected are HiRISE and CRISM.

HiRISE is an ultrahigh-resolution, multicolor stereo imaging system. The HiRISE instrument will provide color stereo images of the Martian surface at six times higher resolution than any existing images. It is expected to improve understanding of surface processes related to water and to help identify future landing sites.

Principal investigator for HiRISE is Alfred McEwen, Ph.D., of the University of Arizona, in partnership with Ball Aerospace Corp. in Boulder, Colo., at a total developmental cost of $31 million.

CRISM is a hyperspectral imaging spectrometer for mineralogical mapping. The CRISM instrument will provide extremely high-resolution hyperspectral images of areas on Mars in wavelengths from 0.4 micrometers to 4.0 micrometers (visible to shortwave infrared) for identifying key mineralogical indicators of water and hydrothermal systems at spatial scales smaller than a football field.

Such data will be vital for targeting future landed missions. Principal investigator for CRISM is Scott Murchie, Ph.D., of Johns Hopkins University's Applied Physics Laboratory at a total cost of $17.6 million.

Facility science team member scientists associated with gravity measurements that can be achieved with the MRO spacecraft are: Maria T. Zuber, Ph.D., of the Massachusetts Institute of Technology; Frank Lemoine, Ph.D., of NASA's Goddard Space Flight Center; and Alex Konopiliv, Ph.D., of NASA's Jet Propulsion Laboratory/California Institute of Technology.

Facility science team members selected for the accelerometer science team are: team leader Gerald Keating, Ph.D., of George Washington University and NASA Langley Research Center; and Stephen Bougher, Ph.D., of the University of Michigan.

Other instruments on board MRO, not solicited by this opportunity, constitute reflights of experiments lost with the failure of the Mars Climate Orbiter mission.

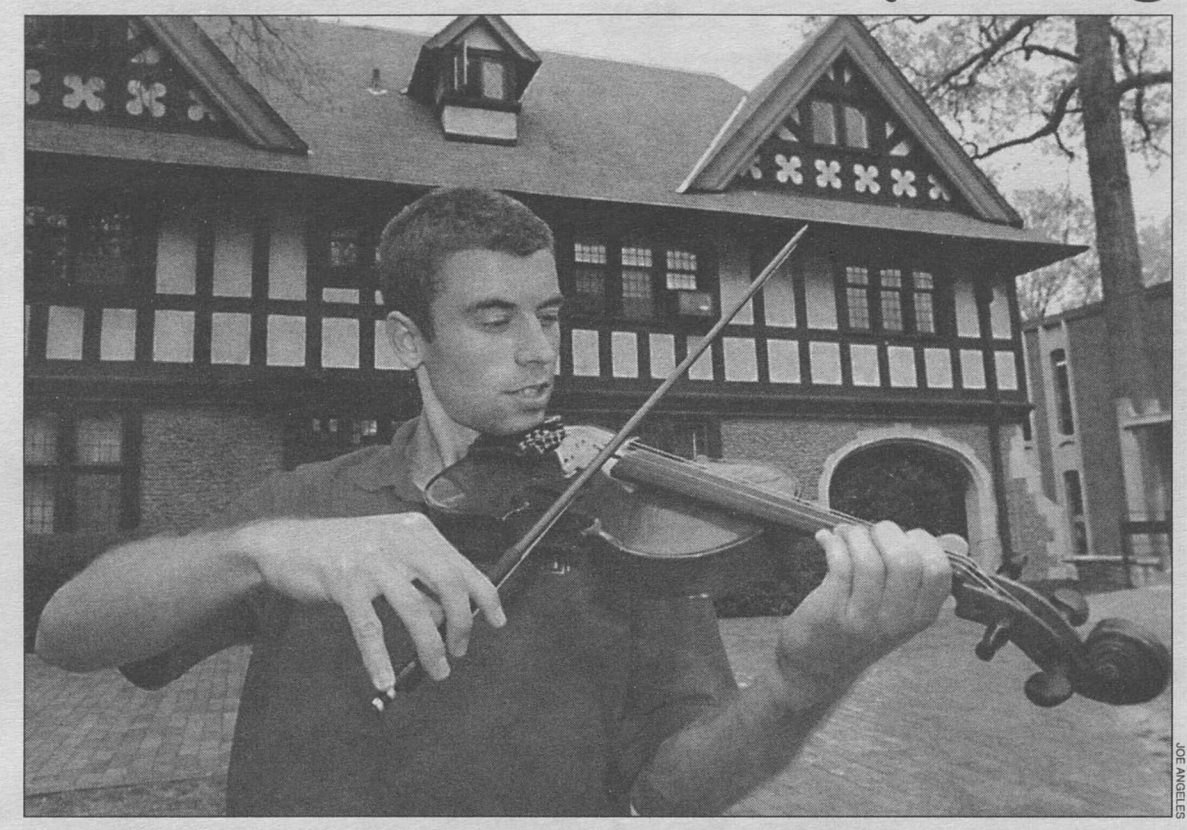
The 2005 MRO mission is an integrated scientific-observation platform that will bring together teams from universities, industry, NASA centers and other organizations. The spacecraft will be developed by Lockheed-Martin Astronautics in Denver and is scheduled for launch to Mars in August 2005.

"NASA views the MRO mission as the essential scientific gateway to the future of landed and sample return missions in its core Mars Exploration Program, as well as an incredible mission of scientific discovery," said Jim Garvin, Ph.D., NASA's lead scientist for Mars exploration.

Gallery of Graduates

Cornelius: 'brilliant in everything he does'

By Neil Schoenherr



JOE ANGELES

Ian Cornelius works through a violin arrangement in front of Blewett Hall, home of the Department of Music in Arts & Sciences. Originally a biology major, Cornelius is graduating with honors in English in Arts & Sciences and hopes to someday teach literature at a university.

Ian Cornelius took up a new hobby this year. He's taking violin lessons.

"I've always really enjoyed the violin," Cornelius said. "Playing the violin helps me listen to the music and appreciate it more, but it has been challenging."

Cornelius is no stranger to challenges. He will graduate with honors in English in Arts & Sciences, having changed his major halfway through his college career.

"I started out as a biology major," he said. "I enjoyed biology a lot. I'd always been interested in science and math, and it seemed like a great fit."

College of Arts & Sciences

However, during his sophomore year, Cornelius signed up for an English literature course with Naomi Lebowitz, Ph.D., the Hortense and Tobias Lewin Distinguished Professor Emerita in the Humanities. Cornelius was hooked.

He realized the study of English literature, like biology, is really the study of life, expressed in a slightly more abstract way. That appealed to him.

"After I took that class, I just decided to go with it," Cornelius said. "Professor Lebowitz really loves teaching and has a true passion for what she does. That really rubbed off on me."

Lebowitz described Cornelius as "the most outstanding student I have taught in 40 years."

"I loved having Ian in class," she said. "He's really a terrific person and brilliant in everything he does. He's very thoughtful and deep, a genuine intellectual."

Cornelius immediately became very interested in the modernist writers like James Joyce and Franz Kafka. But as he took more courses, his focus changed to medieval and Renaissance writing.

"Medieval literature was actually the period I found most difficult in the beginning," he said. "But it does strike one as being remarkably different from anything else. I really like the structure of the literature, a structure which is, at least in part, provided by medieval Christianity, and makes for some incredible dynamics."

His favorite authors now are Chaucer and the major poets of the 14th century.

In addition to his many hours spent reading, Cornelius joined the Philosophy Club and was involved with *Diatribe* magazine for two years.

He also enjoys classical chamber music and electronica, which he was introduced to while studying at Keble College in Oxford, England, during his junior year.

Cornelius, who is from Tucson, Ariz., said he came to the University because of the strength of the biology program and the availability of scholarship money.

"Coming out of high school, I was very interested in field and evolutionary biology, and I saw a great opportunity for being able to do research early in my college career," he said.

That turned out to be the case. Cornelius was awarded the Howard Hughes Medical Institute Undergraduate Research Fellowship the summer after his freshman year. He worked with Jonathan B. Losos, Ph.D., professor of biology in Arts & Sciences and director of the Tyson Research Center, performing a morphology study of African lizards.

It was that same interest in the study of life that led Cornelius to ultimately change his major and the direction of his career path.

"It was a bit of a surprise to me at first to find my interests leading away from biology," he said. "I had never thought seriously about the humanities before. I'd always focused on science and math."

Cornelius was awarded several prizes and fellowships in both biology and English. He was co-winner his freshman year of the Harriet Schwenk Kluver Prize for Excellence in Writing. He won the F. Ward Denys Prize as the sophomore who showed the greatest degree of general excellence in the required work of English.

He also is a member of the Phi Beta Kappa national academic honor society; participated in the Summer Scholars Program in Biology and Biomedical Research the summer before his freshman year; and was a recipient of both the Florence Moog Fellowship for the Biological Sciences and Chemistry and the Howard Nemerov Writing Scholarship.

After graduation, Cornelius plans to teach English abroad for a year and then return to the States to pursue a graduate degree in medieval or Renaissance literature. His goal is to teach literature at the university level.

"I'm very happy I chose to come to Washington University," he said. "Several faculty members, in both biology and English, have influenced me greatly and made a lasting impression."

Johnson uses human element; gets 'in' her designs

By Andy Clendennen

For Cynthia Johnson, it all goes back to the human element.

While other architecture students use computers for most of their designs, Johnson — who is graduating with a master of architecture degree — opts for the more traditional and intimate method of drawing and sketching by hand.

She's a rare breed indeed.

"I spent years gaining extensive ACAD (a software program used by many architects) experience before I decided to come back to school," said Johnson, who worked for nearly five years in the public sector as an engineer before continuing her education. "I thought if I was going to go back to school, I was going to go back for something I wanted. When I got here, people said I'd have to pay my dues (using ACAD). And there's nothing wrong with that, I guess. It's just that I felt I'd paid my dues already.

School of Architecture

"I figured I better enjoy it while I can still do it by hand. When you are drawing by hand and you are drawing every connection, then you really understand how something is constructed, and I'm getting the most out of my education because of that. I chose to go by hand because I felt I was learning more that way, because I was *in* the design."

> "I chose to (draw) by hand because I felt I was learning more that way, because I was *in* the design."
>
> Cynthia Johnson

Johnson took a most circuitous route to the School of Architecture. She earned a double major from the University of Maryland, in physics and art history, with an architecture concentration.

She pursued physics mainly due to prodding by her father, who wanted her to be a doctor. But while interning at Alpharma USPD, a pharmaceutical company, she was offered a full-time engineering position.

Rapidly rising through the ranks, Johnson just as quickly encountered a significant obstacle.

Fully qualified for an engineering position, she was told she needed a master's degree to advance beyond the associate engineer position. This was despite being involved in several construction projects at Alpharma in which she oversaw everything, including designing rooms, managing construction and installation, setting up, the bidding process and securing subcontractors.

So she pursued a master's degree — and her lifelong dream.

"(Architecture) was always in the back of my mind from the time I was about 6," she said. "As I got older, my father was like, 'You are going to be a doctor, and you are going to go to this school.' So the first time around, I went to school and studied physics and did what they wanted me to do rather than what I wanted to do.

"And architecture is predominantly white male, and it's slowly becoming a woman's field, but you don't see many African-Americans. So socially, there is a huge issue there. When you have a dream like that, you don't have a lot of people pushing you to pursue it. Engineering? Sure. Communications? Sure. But not in architecture.

"So I thought since I have to go back to school to move on with my career, let's see what happens if I follow my dream."

Having drawn designs in a large corporate setting with the pharmaceutical company, Johnson is now hoping for something a little smaller in scale where people are a little more hands-on.

"Initially that wasn't the case," she admitted. "I wanted to get all of the experience early so I could get registered quickly, and I recognize that has a lot to do with it, but I also recognize that I want to be in an office where you are in touch with every phase of the design.

"I'm sure that can happen in a large office, but I want to work in a small firm, someplace that has a studio environment, where the design grows out of a lot of debates and a coming together of ideas. I like being involved in every phase of it."

She continued, "There's something about that human touch. It's kind of like the difference when you see all the houses that are built the same, with the same materials, all in a row versus the building of a custom-built house. There's a level of personal design, and that's why I want to work at a small firm."

JOE ANGELES

A career in architecture has been a lifelong dream of Cynthia Johnson's. After receiving a master of architecture degree, Johnson says she wants "to work in a small firm, someplace that has a studio environment, where the design grows out of a lot of debates and a coming together of ideas."

Gallery of Graduates

Takahashi continues a social work family tradition

By Jessica N. Roberts

When master of social work student Seiichiro Takahashi was growing up in Japan, the last thing he wanted to be was a social worker.

"I grew up in the social work field," Takahashi said. "Because my family runs an agency providing residential facilities for children and the elderly in Tokyo, Japan, everyone around me was a social worker. Even though it was expected that I would take over the agency when I was older, I wanted to be out of social work."

George Warren Brown School of Social Work

He was soon drawn back into the family business while studying electronics at a college.

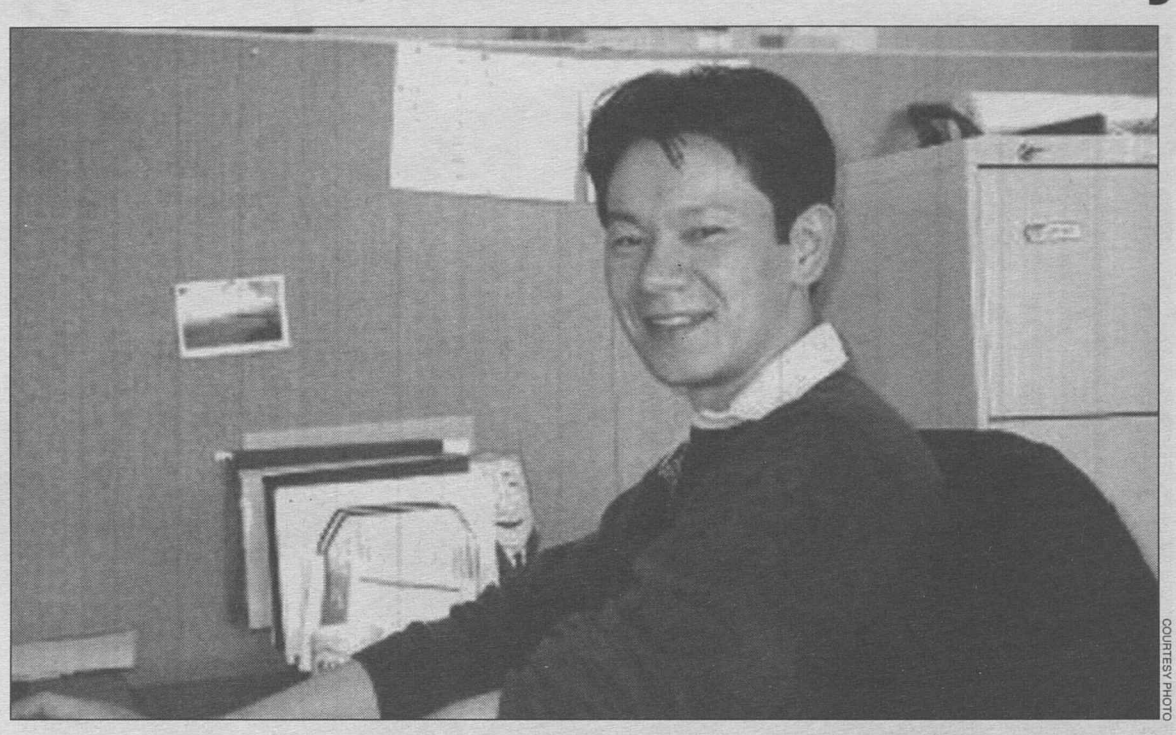
"I realized once I was out of the social work field that I really wanted to be a social worker," he said.

After that realization, Takahashi began working at his family's agency as a child-care worker.

In 1998, Takahashi first visited the George Warren Brown School of Social Work. He was traveling with Japanese professors to research the United States' foster-care system. While at GWB, he was impressed by the diversity of the students and the resources available to students and faculty.

By 2000, his family's agency decided to convert all of its residential buildings from dormitory style to "family-atmosphere style."

"When we made this change, I realized the importance of the management perspective in the social work field, but there was no place that I could learn about it in Japan because the Japanese social work system is totally conducted by the government," Takahashi said. "I decided to study abroad at GWB because I realized that there are opportunities to meet and exchange issues with students and staff not only from the U.S., but also from other countries."



COURTESY PHOTO

Seiichiro Takahashi, who will receive a master of social word degree from the George Warren Brown School of Social Work, works in an internship-exchange program for nonprofit organizations in the United States and Japan at the Japan-U.S. Community Education and Exchange in the San Francisco area. Takahashi came to GWB "because I realized that there are opportunities to meet and exchange issues with students and staff not only from the U.S., but also from other countries."

GWB has provided Takahashi with a wide range of experiences that he can apply to his work in Japan.

"My class-work and fieldwork experiences have focused on the importance and value of social workers for children and families and on management in the social work fields," he said. "As part of my fieldwork, I worked for the Family Preservation Program at Edgewood Children's Center (in St. Louis). In Japan, we do not have this kind of home-based program for families with children.

"The friendly staff at Edgewood gave me numerous opportunities to learn more about issues that come up with families."

Currently, Takahashi is working for an internship-exchange program for nonprofit organizations in the United States and Japan at the Japan-U.S. Community Education and Exchange in the San Francisco area. This is his second practicum experience while at GWB.

During his time at GWB, Takahashi enjoyed participating in the 2001 International Festival. He invited a Japanese drum group to play there and worked on stage lighting and sound operation for the event.

"It was a good experience and wonderful to see the international students cooperating and working together toward one goal," Takahashi said.

Brian Legate, GWB's director of admissions and Takahashi's adviser, said, "Seiichiro's life experience has brought to GWB a unique perspective that has challenged students to view social work in America from a global perspective, while his student leadership has focused on bringing people of diverse backgrounds together."

Outside of GWB, Takahashi often goes fishing, camping and traveling around Missouri with friends.

"There are many beautiful places (in Missouri)," he said. "The best travel I experienced was a road trip to the East Coast with my best friend from GWB."

Takahashi also plays the guitar and flute. "Music is a good communication tool."

After graduation, Takahashi hopes to work in a place similar to his current practicum site. He would like to keep an exchange of ideas flowing between the United States and Japan.

Ultimately, Takahashi will take over his family's agency in Japan.

"I believe I have the ability to tackle some of the issues and problems the Japanese social work system faces using what I learned at GWB," he said. "In the future, I would like to develop some collaboration between the U.S. and Japan for social workers because even though the culture and population are different, the issues in social work are very similar. I am sure that collaboration could bring perspectives and ideas to tackle these issues."

Sybalsky a quintessential blend of artist, scientist

By Liam Otten

Duogladius tantus is a bisegmented, black scarab beetle approximately 2 inches long, characterized by a large anterior, regenerative horn. A wealth of information on *D. tantus* is available for the amateur entomologist — publication-quality illustrations; museum-style displays; newspaper and journal clippings; even a portfolio of poem-paintings by the artist Donna Meltzer, inspired by beetle-munched academic text.

Of course, you might be surprised to learn that *D. tantus*' natural habitat is limited to the fertile imagination of Julia Sybalsky, who will receive dual degrees in sculpture from the School of Art and anthropology from Arts & Sciences.

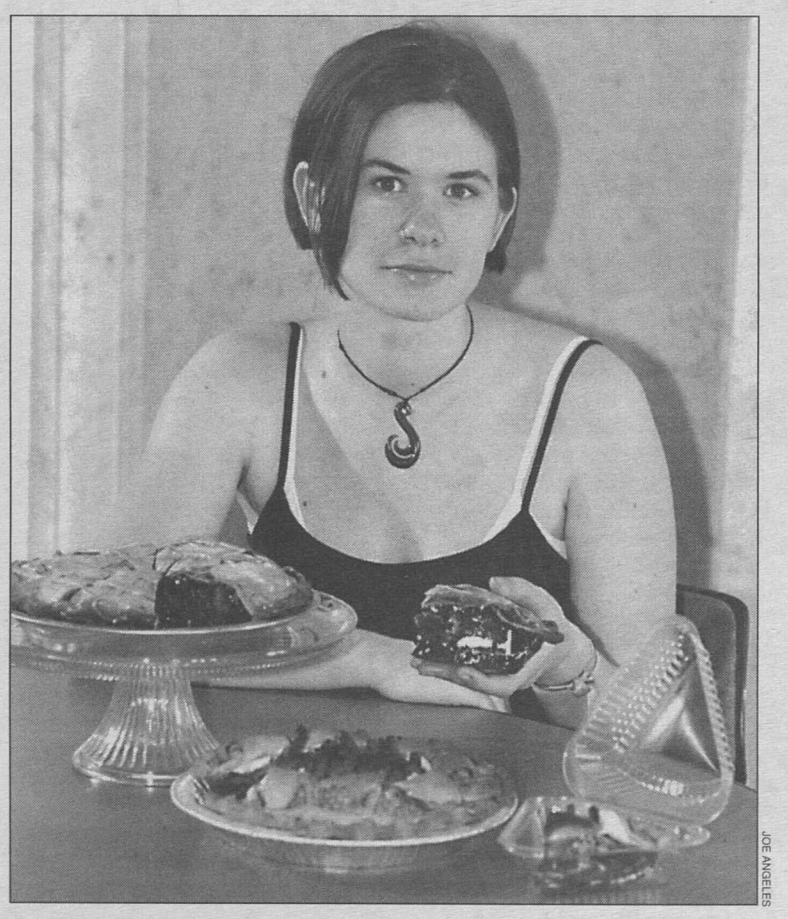
School of Art
College of Arts & Sciences

"The lie gets really complex," said Sybalsky, who crafted the "evidence" for *D. tantus* and three related species — *Duogladius crudus, Duogladius vulgaris* and *Duogladius jaundis* — in her Lewis Center studio. (1999 alumnus Kenneth Pruitt helped draft the faux articles.)

Still, the project "wasn't about faking people out. It was about wonder and curiosity at what is possible," Sybalsky said.

If science is the language of Sybalsky's art, art has become the medium of her scientific investigations — a development that recently earned her anthropology's Excellence in Research prize.

For much of the past three semesters, she's worked with Tab Rasmussen, Ph.D., professor of anthropology in Arts & Sciences, and Glenn Conroy, Ph.D., professor of anatomy in the School of Medicine, to illustrate recently discovered fossils of *Ourayia uintensis* and *Chipetaia lamporea*, a pair of tiny primates that lived some 50 million years ago in what is now northwestern Utah.

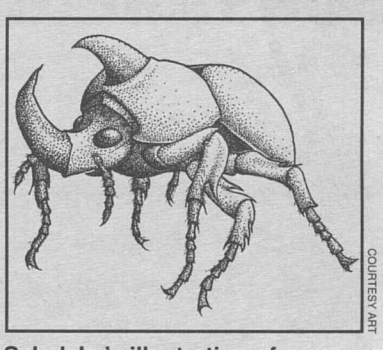


JOE ANGELES

Julia Sybalsky with two recent sculptures, *The International Hamburger Pie* and *The Stage Coach Special*. Sold by the slice, these shellacked "pastries" address issues of land consumption with top shells cut out from maps and interiors filled with soil, fast-food Happy Meals, plastic cowboys and other metaphorical delights.

"Julia has worked diligently and expertly … initially starting out doing scientific illustrations of Eocene primate limb bones and then moving right into active research on functional interpretation of the fossils," Rasmussen said. He added that, in the end, Sybalsky carried "a significant share of the workload in writing up a manuscript for publication."

Sybalsky explained: "Many fossil primates are only known by their teeth. The reason these fossils are important is that they're the first post-cranial specimens that can be used to describe *Ourayia*. There are ankle bones — an astragalus and a navicular — a proximal femur, and a first metatarsal, which indicates that the species had a grasping toe."



COURTESY ART

Sybalsky's illustration of *Duogladius tantus*.

A native of Granby, Conn., Sybalsky came to the University to pursue sculpture and archaeology but soon found herself drawn to cultural anthropology and then primatology.

"For the first couple of years, my anthropology studies and my artistic pursuits were pretty separate," she admitted, but noted, "There were certain ideas that stuck, which I'm drawing on now."

For instance, as a sophomore Sybalsky held a unique internship at the School of Medicine — skeletonizing the remains of primates to help build a bone library.

"It was absolutely fascinating, but most of my work time was at night," she recalled. "There's nothing stranger than being in the morgue at 3 in the morning, bopping to the Beach Boys."

Nevertheless, she gained a thorough knowledge of primate anatomy — a vital asset for the illustration project — and an interest in natural history and systems of classification that continues to influence her sculpture.

Her installation *Geotaxa*, currently on view in the Gallery of Art in Steinberg Hall, features eight cases displaying carefully labeled soil samples and floral specimens alongside man-made bric-a-brac such as pencil fragments and paper scraps.

Yet where traditional taxonomies might include species names or explication of historical import, Sybalsky's labels recall some half-hidden, interior-seeming narrative. Seedpods and clumps of grass collected at Cahokia Mounds, for example, bear texts such as, "Where his work secured a city but separated him from his richer relatives," and "Where a group of friends watched another perform poorly in the game below."

"The (scientific) illustrations involve defining a species by its morphology and the evolutionary lineages," Sybalsky pointed out. "Here I'm doing exactly the opposite — defining various species by something as subjective as I can make it."

The result is a "taxonomy of geography and memory" that examines "memory as a system of collection and how you take parts of places with you, either physically or emotionally."

After graduation, Sybalsky plans to continue walking the line between art and science by enrolling at the University of Washington, Seattle, which offers a certificate program in scientific illustration.

"I think it's a field I would get very excited about," she mused. "I'd always be learning something new, always investigating something I wasn't familiar with."

Gallery of Graduates

As if not busy enough already, Hammack earns degree

BY ANDY CLENDENNEN

Some people are busy. And then there is Susan Hammack.

As an award-winning photographer, printmaker and painter, and as a gallery consultant for Art St. Louis and a professional Middle Eastern dancer for more than 20 years, one might think that those alone would keep Hammack busy.

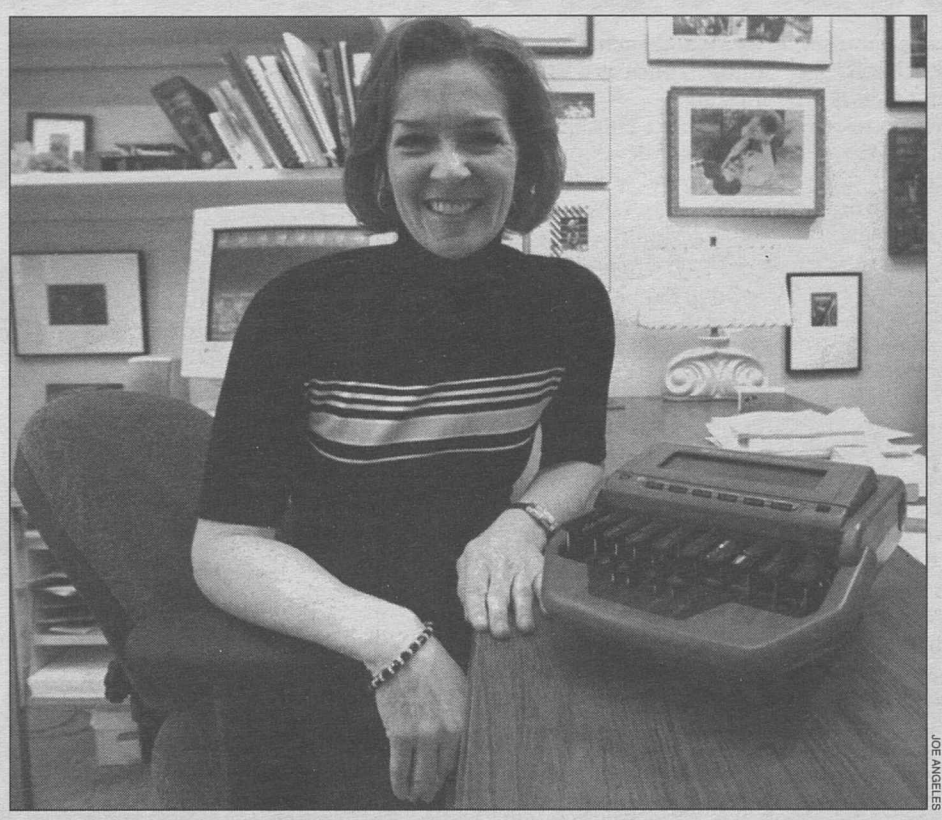
But factor in her career — she has been a court reporter nearly 30 years, the past 15 for St. Louis County Division 9 in Clayton — and one can see how serious she is when she laughingly says she has no life.

University College in Arts & Sciences

Then take into account her education. Hammack has spent the past five years taking courses in University College in Arts & Sciences and will graduate with an anthropology degree.

Still, she downplays her lifestyle.

"There are a lot of people doing what I do," she said. "The ones that are impressive are the women with jobs and kids that still find time to go to school."



JOE ANGELES

A court reporter for nearly 30 years, Susan Hammack will graduate with an anthropology degree from University College in Arts & Sciences. She is just the third student in University College to honored with induction into Phi Beta Kappa.

In 1969, Hammack was just 17 and fresh out of DeSoto High School. Lacking the funds to jump straight to a four-year college, she attended junior college for a short time until she took a summer internship at the county courthouse in Hillsboro, Mo.

"When I came out of high school, the professions that they really pushed for women, maybe particularly for those from my socio-economic background, were secretary, teaching or nursing," Hammack said. "I took a summer job at the courthouse and became exposed to the law profession.

"I think you are governed by your subconscious a lot. As a 17-year-old, what do you really know about yourself? I'm not sure, but (court reporting) suited aspects of my personality. You are linked to a group, but it's really an individual position because nobody tells you how to do your job. You just have to be able to do it."

After slightly more than 25 years, Hammack decided to finish her degree. And although at first glance anthropology might not mesh well with her artistic background, she begs to differ.

"The anthropology interest came about because I'm really interested in diverse cultures," she said. "When I started, I truly was interested in an education that would suit my interests and give me really what I felt I was going to school for — an education, as opposed to 'I'm getting this degree because I want a job doing this.' I was looking at it from the educational standpoint.

"I think anthropology ties in really well with art, especially the anthropology I was pursuing, because I really focused mostly on cultural anthropology. I'll have almost as many hours in Middle Eastern studies and art history as anthropology — that's just kind of the way it worked out. So I really have what I wanted."

Hammack received University College's St. Louis Community College Merit Scholarship, has been an active member of the University College Advisory Committee for the past three years and was chosen as the student speaker for University College's fall 2001 convocation.

She's also a member of Alpha Sigma Lambda, the national honor society for evening students, and was initiated into Phi Beta Kappa April 8 of this year.

"Susan is a terrific representative of Arts & Sciences (in University College)," said Edward S. Macias, Ph.D., executive vice chancellor and dean of Arts & Sciences. "Her dynamic personality, her wide-ranging interests, and in particular her courage and determination in pursuing a degree later in her life are all qualities that characterize our best and most successful students.

"Her induction into Phi Beta Kappa — only the third person ever to achieve this honor from University College — crowns her undergraduate career. I know she will have great success in whatever she chooses to do next."

Hammack points out that her University College experience goes far beyond what she's received — it's also about what she's been able to give, and that has become more noticeable recently.

"All these years I've been getting my degree, I was really caught up in what I was getting from the class, with the teaching of the topic, the instructor and the other students," Hammack said. "This semester, it really struck me how much the professor gets from the students, and that we are contributing to the changing of their insights. Of course, not as much, but you do change their insights. I guess I realized how the student factors into the whole.

"University College has been a really great experience for me. They gave me the biggest gift of my life, the (St. Louis Community College Merit) scholarship. I still to this day can't believe it. It's been wonderful."

Weyland helps develop 'miracle' artificial heart

BY GERRY EVERDING

Much to the chagrin of parents and counselors, high school students often are notorious for being clueless about what they want to do with their lives.

Mariah Weyland is an exception.

As a high school senior exploring college options, Weyland wanted to be sure her undergraduate choice suited her career goals. She considered becoming a doctor but was not thrilled with the idea of spending so much time in medical school.

School of Engineering and Applied Science

Then, working with a counselor, she chanced across some information on biomedical engineering.

"I was looking for a profession where I could apply my interest in medicine and my math and science skills without going to medical school," Weyland said. "I picked biomedical engineering out of a book. It seemed like a perfect fit."

Weyland will graduate with a bachelor's degree in biomedical engineering. She's not yet sure exactly what she'll be doing with that degree, but her accomplishments thus far suggest that a career in biomedical engineering was the right choice.

For nine months last year, Weyland worked as a co-op engineering intern at ABIOMED Inc., a Massachusetts-based medical-technology firm now conducting initial clinical trials of the world's first completely implantable replacement human heart.

Working side by side with engineers, scientists, doctors and technicians in the firm's research office, Weyland became part of a team now making medical history.

JOE ANGELES

Mariah Weyland served as a co-op engineering intern at ABIOMED Inc., a Massachusetts-based medical-technology firm now conducting initial clinical trials of the world's first completely implantable replacement human heart. In addition to rigorous biomedical engineering studies, Weyland also played on the University's varsity women's soccer team for four years.

Last month, the firm implanted the heart in its seventh human recipient.

"It was especially exciting for me because some of the first people to receive the implants were patients at Jewish Hospital in my hometown of Louisville (Ky.)," Weyland said. "Without the heart implant, these patients were expected to have less than 30 days to live. So, it's been thrilling to see some of them doing well enough to leave the hospital and go home to their families."

Not coincidentally, Weyland's path to ABIOMED also came through Louisville. In her freshman year, a family friend helped her get a summer internship there with the Cardiothoracic Surgical Research Institute at Jewish Hospital, where prototypes of the AbioCor heart were being tested in young cows.

Weyland assisted in surgical prep and anesthesia as the calves were fitted with the mechanical hearts. She then stuck with her patients through intensive postoperative care. She administered medications, drew blood and ran blood gas and blood coagulation tests.

"The calves need exercise, so one of my duties was to walk them up and down the hallway, which was a little odd, since we were on the seventh floor of a medical research building in downtown Louisville," Weyland said. "Now, I hear that they actually have a treadmill for the cows to walk on."

Weyland returned to Jewish Hospital the following summer, moving up the ladder into more involved research roles. Working with cardiovascular surgeons, professional engineers and postdoctoral fellows, she researched variations in heart rates in calves using the robotic hearts and developed her own algorithms for analyzing aortic pressure and aortic flow.

These valuable experiences helped pave the way for her participation in ABIOMED's preparations for human clinical trials.

Her involvement in a project at the very forefront of biomedical technology was confirmed last year when *Time* magazine named the AbioCor artificial heart as its Invention of the Year. Hailing the device as a "miracle of medical miniaturization," *Time* noted that the AbioCor heart is entirely self-contained, save for a wireless battery pack strapped to the patient's waist — a far cry from the first generation of artificial hearts, which were attached by tubes and wires to refrigerator-sized units.

Weyland's ABIOMED experience provided an impressive capstone to a busy undergraduate career that included four years on the University's varsity women's soccer team. A scholar-athlete often on the Dean's List, she also found time to be active with the Catholic Student Center and the LeaderShape Institute.

"It was a steady struggle to keep up with my studies while playing soccer for four years," Weyland said. "It's a big time commitment, but I would do it all over again if I had the chance."

Weyland now has her own heart set on pursuing a career in medical-device engineering, although she admits it's been tough finding a job that compares with the excitement she felt at ABIOMED.

If the right job doesn't materialize soon, she's planning to pursue graduate school. And, of course, she's doing her homework, researching the best graduate schools for biomedical engineering in either Australia or England, both countries she always has wanted to visit.

Gallery of Graduates

World traveler Filev brings 'contagious enthusiasm'

By Robert Batterson

Iliya Filev witnessed the fall of communism in his native country of Bulgaria as a boy growing up in the late 1980s and early 1990s. Now he can't get enough of the freedom and way of life he has found in America.

"Life is so different here," Filev said. "People here believe that anybody is able to achieve whatever they want. In Bulgaria, you just don't think you can accomplish anything you want — like Bill Gates. People here are never afraid to do what they want to do.

Olin School of Business

School of Engineering and Applied Science

"My life in Bulgaria was greatly influenced by the enormous changes that took place as we transitioned from a communist economy to a market economy," he added. "The major shift really began in the early '90s, a few years following the fall of the Berlin Wall — that's when people started going out in the streets and having demonstrations, and we had our first democratically elected president and government."

Filev's father is a university professor of pedagogy, and his mother is a high school principal in Sofia, Bulgaria. A competitive swimmer, Filev went to a number of national competitions.

He had a strong passion for physics.

"We have majors in high schools in Bulgaria," he said. "I majored in physics, but I knew I wanted to study business in college. Physics gave me the quantitative skills to be a good analyst anywhere, but I wanted to come to the United States because it has the best business schools."

One of the important factors that influenced his decision to attend the Olin School of Business, in addition to its outstanding academic reputation, was the number of international students at the school.

"There were several things that made my decision to come to Olin easy," Filev said. "First of all, I could start my business education right away as an undergraduate. It's also good in finance — the area I was most interested in studying. It's a big plus for me that the University makes it easy for students to major in different schools, because I majored in international business and computer science."

In addition to holding a 3.8 grade-point average, Filev managed a daunting load while studying at the business school. Filev's accomplishments include an international business internship at a consulting firm in London; building a financial model for analyzing corporate bonds at an investment advisory company; serving on the Educational Policy Committee of the University's Board of Trustees; winning the advanced intramural racquetball championship; and helping design and construct a new Web site for the Olin School.

Filev also participated in the University team that created an experimental canister that flew on the space shuttle *Atlantis*.

"I've always been fascinated with space," he said. "It was a joint program with NASA to build a canister and gather experiments from elementary school students to get them involved and interested in space. We had two trips to NASA, and I actually watched the shuttle launch as a VIP. It was amazing."

Dannette Hutton, manager of Web-based development at the Olin School, said she never has to wonder how a project will pan out with Filev on the job.

"He is always looking beyond the minimum requirements — asking questions, making suggestions, and giving it his all so the project is really a success," Hutton said. "Besides his wonderful work ethic, Iliya's a pleasure to be around with his contagious enthusiasm for learning and for life in general."

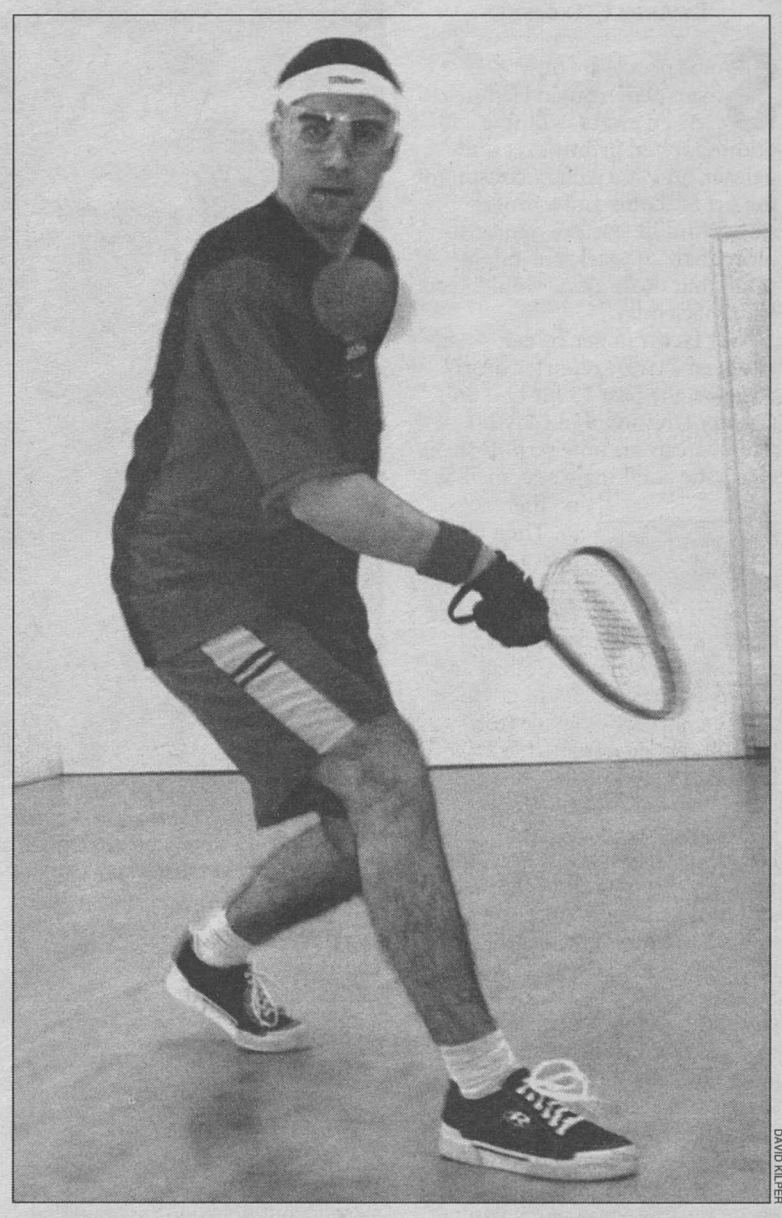
Gary M. Hochberg, Ph.D., associate dean of undergraduate programs for the Olin School, said, "He seems to be everyone's favorite person. I've never heard anyone say anything about Iliya that wasn't utterly enthusiastic. He absolutely loves Olin and Washington University and has taken advantage of every conceivable opportunity to learn and to become involved."

Upon graduation, Filev is considering returning to London to work in management consulting for two or three years before pursuing a master of business administration degree.

"I love London," Filev said. "It combines both a European and a New York perspective. I love the fast-paced life there. I grew up in a place where you walk a lot and see lots of people in the street, and I like that.

"London is one of the top financial centers in the world and has lots of opportunities."

But Filev said there's one thing he really enjoys about the States besides the freedom: "American hamburgers!"



DAVID KILPER

Among Iliya Filev's numerous accomplishments while at the University is his winning the advanced intramural racquetball championship in 2000. A native of Bulgaria, Filev "has taken advantage of every conceivable opportunity to learn and to become involved," says Gary M. Hochberg, Ph.D., associate dean of undergraduate programs for the Olin School of Business.

Niebur advocates for graduate, professional students

By Neil Schoenherr

For Susan Mahan Niebur, who will be receiving a doctorate in physics in Arts & Sciences, working for NASA had always been a dream.

"One of my first memories is of visiting Johnson Space Center as a little girl," Niebur said. "I was immediately fascinated with the spacecraft, the people and the new knowledge that was being discovered through NASA. Later, I learned the constellations and was fascinated with the idea of other stars like our sun, and other worlds that may or may not be like our Earth.

Graduate School of Arts & Sciences

"There was so much unknown, and so much that could be learned by asking the right questions and building new instruments as the technology advanced."

As her interest in space grew into a passion, Niebur decided to study physics in college and graduate school "in order to participate in the advancement of space science and to really understand what we know about the universe."

All the hard work has paid off, and the dream is now a reality. After successfully defending her dissertation — "Observation of Energy-dependent Electron-capture Decay in Galactic Cosmic Rays" — last July, Niebur began working as a program scientist at NASA headquarters in Washington, D.C., in August.

"My experience at NASA has been outstanding, and I am thrilled to be a part of the organization," she said.

COURTESY PHOTO

While earning a doctorate in physics in Arts & Sciences, Susan Mahan Niebur also served graduate and professional students through numerous leadership roles. "She has been an effective voice for graduate education and graduate student interests both on our campus and nationally," says Elaine P. Berland, Ph.D., associate dean of the Graduate School of Arts & Sciences.

She already is making quite an impact.

"Staff scientists I know at NASA headquarters have told me how pleased they are to have Susan there," said Martin H. Israel, Ph.D., professor of physics and Niebur's science adviser. "They are really impressed with the work she is doing. That is just what I expected, knowing how well she did everything here."

Niebur, who did her undergraduate work at Georgia Institute of Technology, became very involved during her time at Washington University. She served in many capacities, including as vice president and president of the Graduate Student Senate; student representative to the University's Board of Trustees; president of the Graduate-Professional Council; co-founder and mentor of the Physics Peer Mentors program; and president of the National Association of Graduate-Professional Students, where she represented more than 900,000 students at 225 universities.

Niebur also won numerous awards and honors, including one of the prestigious Mr. and Mrs. Spencer T. Olin Fellowships for Women.

"My experience at Washington University was heavily influenced by a number of people in the graduate school and the Olin (Fellows) network who fostered an atmosphere of collegiality and cooperation," Niebur said. "Their support allowed me to pursue astrophysics research and a better campus climate for graduate and professional students, and to build many friendships during my time in St. Louis."

Elaine P. Berland, Ph.D., associate dean of the Graduate School of Arts & Sciences, said, "Susan stands out as an exceptional student leader who, while completing a demanding Ph.D. research training program, has served as president to three graduate student associations and representative to the Board of Trustees.

"She has been an effective voice for graduate education and graduate student interests both on our campus and nationally."

Nancy P. Pope, Ph.D., assistant dean of the Graduate School of Arts & Sciences, said, "What impressed me about Susan was how much she did for others without neglecting her own work. For example, she served on the planning committee for the annual Olin Conference and helped with recruitment of prospective Olin Fellows during their campus visits. Susan's unique success was not just her academic excellence or her student governance work or her participation in the Olin fellowship program's activities, but her combination of all three."

Niebur is married to Curt Niebur, who will be receiving a doctorate in earth and planetary sciences in Arts & Sciences at Commencement.

Susan plans on staying at NASA as long as she can.

"I really love what I do," she said.

Gallery of Graduates

Abedin brings artistic knowledge to scientific pursuits

By David Linzee

Sakena Abedin is one of those extraordinary students whose interests and talents burst traditional bounds. Her intellectual curiosity stretches from natural science to social science to creative writing, and she has achieved striking successes in all three fields.

While earning a medical degree, she published a short story in *The New Physician*, placed another in the forthcoming anthology *Sanskar* and won the Performing Arts Department in Arts & Sciences' 1999 A.E. Hotchner Playwriting Competition.

School of Medicine

The play, *gitanjali*, was produced at the A.E. Hotchner Studio Theatre in Mallinckrodt Student Center. Despite her demanding course load, Abedin attended every rehearsal.

She continued to revise the dialogue until a week before the play opened.

"I had spent three years writing the play, and what I wanted to say was very clear to me," Abedin said. "But there were still surprises in the production. The actors and director saw things I didn't know I'd put there."

Reaction to the play — about the strained reunion of an Indian-born mother and her American-born daughter — also surprised and pleased Abedin.

"I got e-mails saying things like, 'I saw your play and went right home and called my mom,'" she said.

It was Abedin's first play, but she already had a lot of practical experience in the theater — and in balancing artistic and scientific pursuits. At Harvard University, she worked backstage in a variety of jobs and directed plays while earning a bachelor's degree in chemistry.

BOB BOSTON

Sakena Abedin (left) reviews a script with Andrea Urice, artist in residence in the Performing Arts Department in Arts & Sciences, in Edison Theatre's costume workshop. While earning a medical degree, Abedin won the PAD's 1999 A.E. Hotchner Playwriting Competition.

She went on to Stanford University, initially planning to pursue a doctorate in chemistry. But her reading of literature and her reflections about issues of identity and community for South Asians in America turned her interests toward social science.

When she left Stanford, Abedin had two master's degrees — in chemistry and anthropology.

She then took a year off from academics to think about her future. Medicine always had been a possible career choice; her father is a cardiologist. But she wanted to get some real-world experience first, so she volunteered in a community clinic and took a job working with Southeast Asian refugees in San Francisco.

These experiences persuaded her that medicine was the right choice. It would allow her to follow her scientific bent and apply what she had learned in anthropology — sensitivity to people's differing backgrounds and outlooks would make her better able to understand how to treat them.

After her first year in the School of Medicine, a fellowship from the American Medical Student Association and the National AIDS Fund allowed Abedin to return to her hometown of El Paso, Texas, to write a book on HIV prevention for primary-care physicians.

"Someone who wants to talk to patients about HIV in El Paso needs to have different information and a different approach from someone in San Francisco or St. Louis," she said.

Another opportunity came in her fourth year of medical school, when she wrote a paper about how British imperial authorities mishandled a plague in Bombay, India, in 1896.

Her adviser, Walton O. Schalick III, M.D., Ph.D., assistant professor of pediatrics, said, "Sakena has a rare combination of talents — a felicity of written expression, a creatively synthetic mind and a talent for uniting social analysis with clinical reasoning."

Abedin said the freedom to pursue such independent projects in the fourth year is one of the best features of the medical school.

"I've learned an incredible amount here," she said. "There are people with broad interests here, and they're willing to take the extra time to work with a medical student on a special project."

Bradley A. Evanoff, M.D., the Richard and Elizabeth Henby Sutter Associate Professor of Occupational, Industrial and Environmental Medicine, supervised Abedin's work on a study of ways to measure outcomes in cases of workplace injury.

"I knew that Sakena could write well," Evanoff said, "and I was surprised at how quickly she learned to do data analysis. She didn't need detailed instructions. I'd just toss her a problem and she'd work it out."

Abedin will do a residency in pediatrics at Children's Hospital of Philadelphia, a program she chose partly because it teaches physicians how to advocate for children.

"It's important to think about the lives patients live outside the office or hospital — and to learn about ways to make a difference in that context," she said.

Nolan to continue law work – but in new role

By Kevin M. Kiley

Michael Nolan has grilled suspected criminals for information, but not as a prosecutor in a courtroom.

He has labored with fellow partners, but not as an attorney at a law firm.

And he has professionally interpreted the law on an everyday basis, but not as a member of a state bar.

You see, before Nolan began pursuing a juris doctoris in the School of Law three years ago, he was a police officer. For five years, he wore a bulletproof vest under a blue uniform and shiny badge, carried a gun and a nightstick and did his best to maintain peace in an often hectic district of south St. Louis.

School of Law

"We answered calls ranging from domestic disturbances to robberies to shootings," Nolan said. "But my partners and I, we always enjoyed doing the more exciting stuff, like looking for drugs and guns.

"We worked in a very busy district, and there always was a lot of excitement."

But as the years went on, Nolan began noticing a change in himself.

"It's the nature of the job — you're always looking for the worst in people," he said. "And therefore you go around looking for that — and that's not just on the street. It spills over into your general outlook on people.

"That's where I started to become jaded."

With his disillusionment persisting, his wife, Angela, suggested that he attend law school — an idea he originally dismissed. "I never, ever, thought of going to law school or becoming a lawyer," Nolan said.

But Angela researched what was needed to take the LSAT and provided her husband with information on different universities.

"She just kind of gave me a kick in the pants to get me going on it," he said. "Once I started moving in that direction — ever since I made the decision to come to law school — I've been extremely happy.

"Angela was the driving force getting me into law school. I owe her for all my successes here."

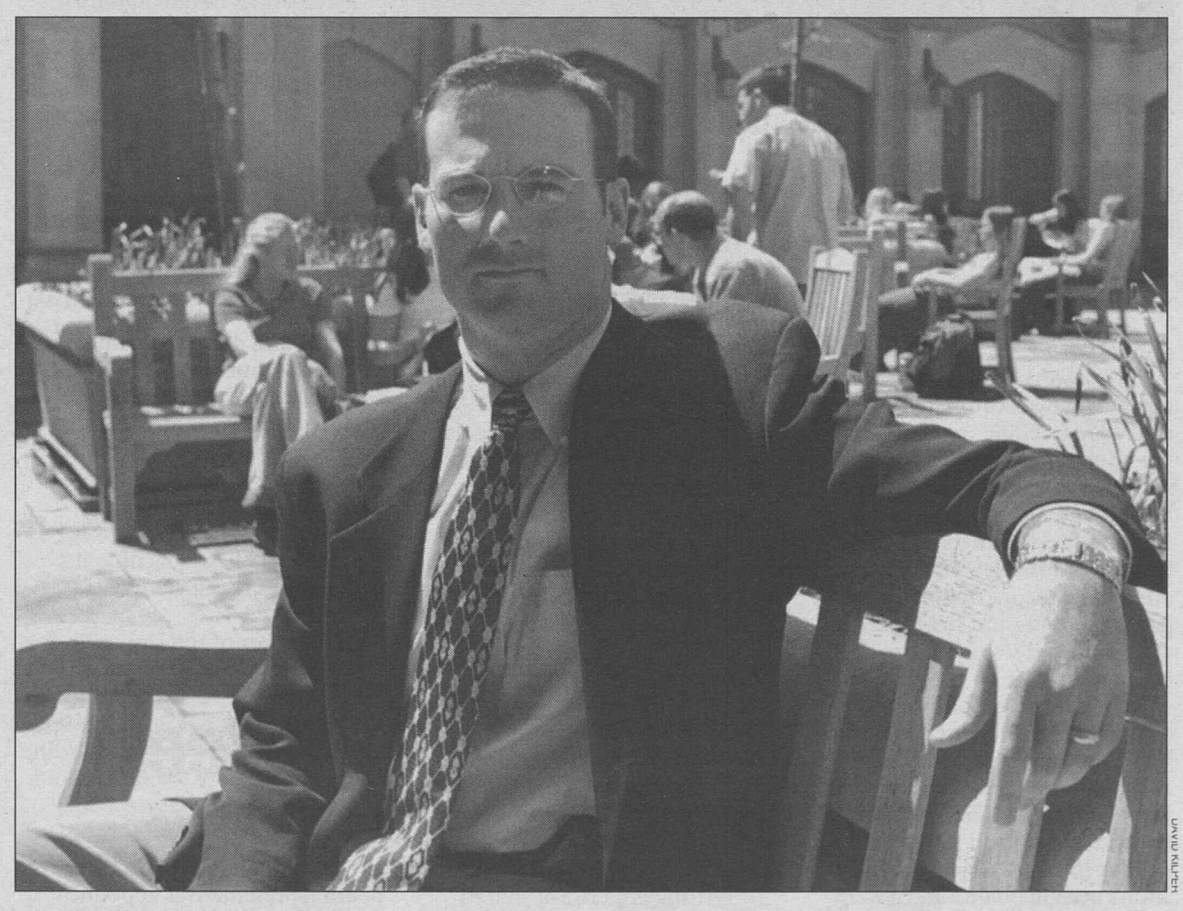
Among his successes are serving first as a member, then as the chair, of the Honor Council, the body that enforces the School of Law's honor code. As part of the school's Mock Trial team, he and classmate Brooke Browning — advised by St. Louis Circuit Judge David C. Mason, who also is an adjunct professor in the law school — qualified for the national competition in April.

In addition to his wife, Nolan credits the mentoring he's received from the law school faculty.

As a first-year student not happy with his first-semester grades, he sought the guidance of one of his teachers, Ann Shields, J.D., senior lecturer and associate director of legal research and writing.

"She was someone who helped steady my confidence and convince me that I was in the right place and doing the right thing, that things would work out," Nolan said. "She's been just a tremendous influence."

Nolan holds the term "teacher" in higher regard than he does the term "professor." For him, Shields and Dorsey D. Ellis Jr., J.D., the William R. Orthwein Distinguished Professor of Law, particularly stand out as "wonderful teachers."



DAVID KILPATRICK

Michael Nolan was a St. Louis police officer for five years before he enrolled in the School of Law. He originally dismissed the idea of attending law school, but his wife, Angela, gave him "a kick in the pants to get me going on it. … Angela was the driving force getting me into law school. I owe her for all my successes here."

The admiration is mutual.

"Mike exhibited leadership in all the courses I taught him, frequently contributing helpful insights to the class discussions," Ellis said. "He will be a splendid lawyer. I am confident he will zealously represent his clients, public or private, with ability, commitment and integrity."

Shields echoed: "I was struck from the outset by Michael's maturity and willingness to commit his time and energy to causes he valued. He is simply a delightful person to know. His contribution to his graduating class cannot be overstated."

After graduation, Nolan will work in the business litigation department at the St. Louis law firm of Husch & Eppenberger, where he was a 2001 summer associate.

He has so much ahead of him now that sometimes he wishes he had gone to law school earlier.

"But at the same time, I'm glad I've followed the path I've followed," Nolan said. "I've met so many interesting people and have done so many interesting things that there are no regrets."

Commencement

— from Page 1

threatening, the ceremony for undergraduates will be moved to the Athletic Complex, while graduate and professional degrees will be bestowed at each respective school's Commencement Reception.

Weather updates and other information on Commencement week activities can be accessed by calling 935-4355. (Also, see the Commencement Week calendar, Page 4.)

Brown University President Ruth J. Simmons will deliver the Commencement address, titled "Design for Living: Digital Truth and Technicolor Dreams."

Simmons is the first African-American to lead an Ivy League institution as well as Brown's first woman president. She also holds appointments as professor in the Department of Comparative Literature and the Department of Africana Studies at Brown.

Honorary degrees also will be awarded at Commencement. In addition to Simmons, who will receive a doctor of humanities, recipients are: I. Jerome Flance, M.D., Washington University professor emeritus of clinical medicine, doctor of humanities; Sam Fox, chairman, chief executive officer and founder of Harbour Group Ltd., doctor of laws; Harry C. Stonecipher, vice chairman of Boeing Co., doctor of science; and Earl E. Walker, founder and president of Carr Lane Manufacturing Co., doctor of science.

Commencement begins with the traditional academic procession into the Quad. Jessie L. Ternberg, M.D., Ph.D., emeritus professor of pediatric surgery in the School of Medicine, will serve as the honorary grand marshal. A nationally recognized pediatric surgeon, she was the first female surgical resident at Barnes Hospital, the first female surgeon on the medical school faculty and the first woman elected head of the medical school's faculty council.

Approximately 125 alumni of the Class of 1952, celebrating their 50th reunion, will march in the opening procession.

The program will begin with music by the Mighty Mississippi Concert Band of St. Louis, under the direction of Dan Presgrave, director of the University Symphony Orchestra and University Wind Ensemble and lecturer in the Department of Music in Arts & Sciences. Kendall C. Gladen, a bachelor of music candidate from St. Louis, will sing "America the Beautiful."

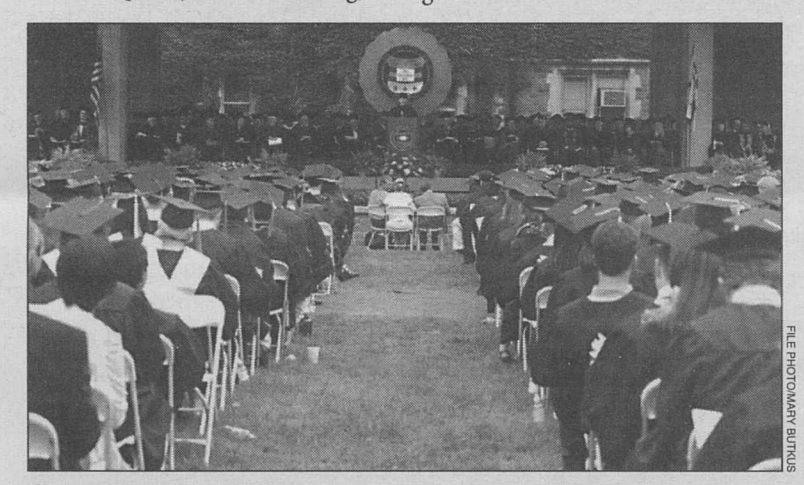
Eric H. Schultz, president of the senior class and degree candidate in political science in Arts & Sciences, will deliver the student Commencement greeting.

Conferral of academic degrees follows, with the deans of each of the schools and Edward S. Macias, Ph.D., executive vice chancellor and dean of Arts & Sciences, assisting Wrighton.

Following the conferral of degrees, Wrighton will deliver his message to the class of 2002.

Elizabeth P. Hendricks, a master in music degree candidate, will conclude the ceremony by singing the Alma Mater.

Following the ceremony, the University's schools will hold receptions for graduates and their guests.



FILE PHOTO/MARY BUTKUS

Chancellor Mark S. Wrighton will preside at the University's Commencement today in Brookings Quadrangle.

Sports

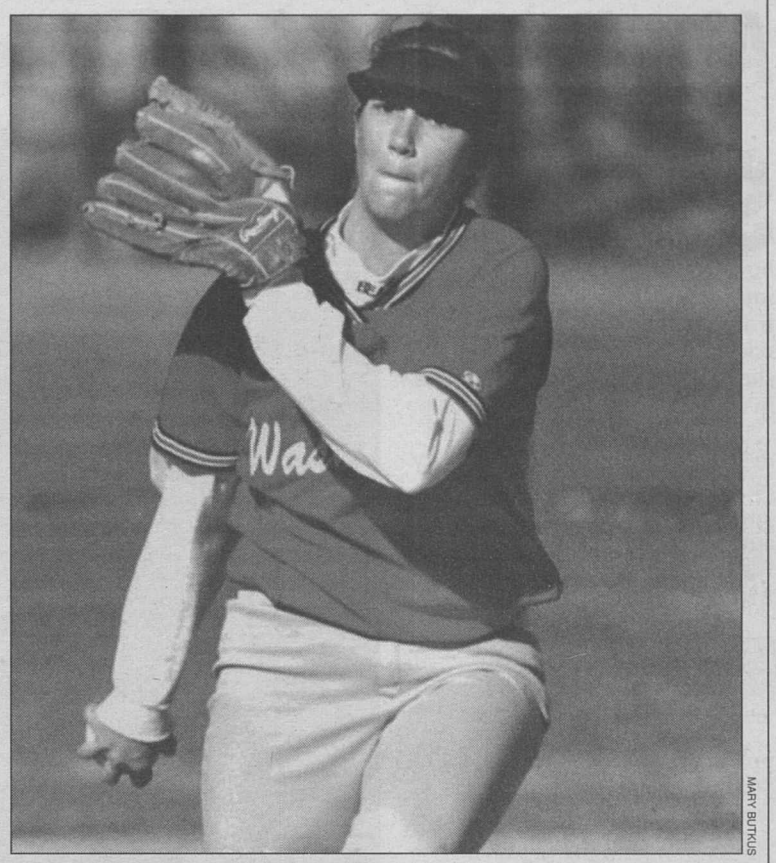
Baseball finally wins record 30th game

The Bears won 30 games for the first time in school history and bettered the previous single-season wins record of 27, established in 1999 and 2000. The Bears (30-10) won four straight after dropping a 12-4 contest April 30 at Greenville. WU defeated Illinois College, 7-3, on May 1 and swept a doubleheader from Principia on May 3, winning 8-2 and 14-4. WU then made it a 30-10 season with a come-from-behind, 13-11 win over Webster on May 4. Joe Kelly continued his hot streak, hitting .500 (9-for-18) with nine RBIs and five runs last week. Reggie Crume swiped his 29th base, breaking the single-season record of 28 set in 1982, and Mark Glover moved into second place all-time at WU with his 41st career double.

Other updates

The **softball** team completed its regular season with two losses at home May 4 against Webster University. The Bears dropped Game 1, 3-2 in nine innings, and lost Game 2, 1-0. The Bears finished the season with a 23-17 record and were rewarded by earning their first-ever bid to the NCAA Division III Tournament. The Bears will play in the six-team Central Regional today through May 13 at Illinois Wesleyan University in Bloomington, Ill. The Bears are the sixth seed in the regional and will take on host Illinois Wesleyan, the No. 3 seed, in Friday's first round. The regional is double elimination and the winner advances to the national finals, May 16-20 at the University of Wisconsin-Eau Claire.

The **outdoor track and field** team made the most of favorable weather as several runners posted multiple personal records and NCAA-qualifying times at the Butler Twilight meet May 4. Senior Travis Deutman ran a personal-best 3:52.41 to take third place in the 1,500 meters and qualify for the NCAAs.



MARY BUTKUS

Junior Liz Smith, here about to unleash a pitch in a recent game, has pulled double duty this year for the Bears. As a first baseman, Smith leads the team with 283 putouts. And as a pitcher, she has won four games and walked just four batters in 37 1/3 innings.

Sophomore Matt Hoelle won the 10,000 meters in a personal-best 31:04.86, while senior Pat MacDonald improved his top time with a second-place finish in 31:23.80. In the 3,000-meter steeplechase, sophomore Darius Viet ran a personal-best. 9:22.89. On the women's side, the Bears posted two NCAA automatic qualifiers in the 10,000 meters as sophomore Emily Lahowetz and senior Andrea Newberry ran 1-2 in 36:22.22 and 36:39.98, respectively. Freshman Hallie Hutchens posted a personal-best in the 100-meter hurdles with 14.65, and sophomore Melanie Mikecz improved her best time in the 3,000 meter steeplechase, finishing in11:08.06.

The **women's tennis** team, ranked ninth in NCAA Division III, earned its third straight invitation to the NCAA Tournament and will host the first and second rounds May 10-11. All matches will be played at Shaw Park in Clayton. The Bears host Kenyon College (Ohio), Denison University (Ohio) and Saint Mary's College (Ind.) in one half of the Central Regional. Denison and St. Mary's play today at 9:30 a.m., followed by Washington U. and Kenyon at 1:30 p.m. The winners meet May 11 at noon to advance to the national quarterfinals. The quarterfinal, semifinal and final rounds will be played at Sweet Briar College in Sweet Briar, Va., May 17-22. The Bears, enjoying one of the finest seasons in their history, beat Kenyon twice this season, their first-ever victories over Kenyon.

On the Internet

For more sports information, go to bearsports.wustl.edu.

Schultz

— from Page 1

politics."

While working for Clinton's campaign, he coordinated a statewide tracking operation of the opponent's campaign. This included working with local leaders and recruiting and training 125 volunteers. He also traveled across New York state to attend and record opponents' political events and researched and produced several internal documents.

In addition to Clinton's campaign, Schultz interned for U.S. Sen. Charles E. Schumer, D-N.Y., in 1999. Schultz hopes his work experience, along with his education, can land him a job.

"My interest and passion has always been in politics and government," Schultz said. "I admire those who have the motivation and desire to give back to their community. I have a great deal of respect for those who are willing to put themselves on the line."

Schultz gave back to the University community by serving as a resid-ential adviser and president of the Residential Hall Government.

He also has won many awards and honors, including being a member of the Dean's List since 1998; Lock and Chain, the 15-member sophomore class honorary; Pi Sigma Alpha, the national political science honorary; Omicron Delta Kappa, the national leadership society, and the Golden Key International Honor Society.

As president of the senior class, Schultz was charged with enhancing school spirit and planning senior class events.

"I really love Washington University," Schultz said, "and being president provided me an opportunity to work with a great team of students to give back to our community."

He chose to attend the University due to his initial impression during a campus visit and also due to the vast resources of the political science department. He said he has been incredibly happy with the decision.

In addition to his bachelor's degree in political science, Schultz also will be receiving a minor in writing, a skill that he hopes will benefit him as he pursues a career in the communications area of campaigning.

"Writing is a critical skill to have no matter what you do, but I think it's especially important for what I will be doing," Schultz said.

He credits Kathleen Drury, lecturer in English composition in Arts & Sciences, for helping him take his writing skills to the next level.

"Eric brought to my class a serious intellectual engagement that I much admired," Drury said. "My classes include many fine writers, but Eric possesses a quality which moves his writing beyond the norm — he can eloquently appeal to the best in us. He invites us to share his dream — a vision of good people accomplishing good for others."

Academy

— from Page 1

of a number of professional journals and delivered named lectures at more than 100 educational institutions or professional societies.

Will is one of the world's leading experts in experimental tests of Einstein's theory of general relativity. He joined the University's physics faculty in 1981 and has been chair since 1991.

A member of the University's McDonnell Center for the Space Sciences in Arts & Sciences, Will examines the observational and astrophysical implications of Einstein's general theory of relativity, including gravitational radiation, black holes, cosmology, the physics of curved space time and the interpretation of experimental tests of general relativity.

His 1986 book *Was Einstein Right?* focuses on Einstein's theory of general relativity and the experiments designed to test it. The book won the 1987 American Institute of Physics Science Writing Award in Physics and Astronomy and has been translated into eight languages. It was selected one of the 200 best books for 1986 by *The New York Times Book Review.*

Will was named a fellow of the American Physical Society in 1990 and was a recipient of both a Guggenheim Fellowship and a Fulbright Fellowship for the 1996-97 academic year.

The 2002 class of 177 American Academy of Arts & Sciences fellows and 30 foreign honorary members include a U.S. senator and representative, four college presidents, three Nobel Prize winners, six Pulitzer Prize winners, three MacArthur fellows and six Guggenheim fellows.

Trustees

— from Page 2

The two undergraduate student board representatives appointed for 2002-03 are **Cindy Chang**, a junior majoring in history in Arts & Sciences, and **Emily R. Reinhart**, a sophomore double major in international business in the Olin School of Business and Spanish in Arts & Sciences.

The graduate student board representatives for next year are **Jonathan S. Brenner**, a master of business administration degree student in the Olin School, and **Nick Williamson** of the School of Law.

In addition to the election of trustees, the board received a report from Wrighton reviewing the status on University matters, including planning for a sesquicentennial celebration in 2003-04, installation of 10 faculty into recently endowed professorships and the announcement of faculty achievement awards in April.

Wrighton also reviewed the March activities of the International Advisory Council for Asia in Shanghai and Beijing, China, as well as the strong reception provided by the top three universities of China — Fudan, Beijing and Tsinghua.

In closing his remarks, Wrighton reviewed the exceptional achievements of the University's athletic programs during the past year in which seven teams — football, volleyball, men's cross country, men's and women's basketball, and women's indoor and outdoor track — were crowned University Athletic Association (UAA) champions.

Four teams qualified for NCAA championship playoffs, and 12 students were named to All-American teams. More than 110 students earned All-UAA honors, with three being named Athlete of the Year and one being named Rookie of the Year.

Edward S. Macias, Ph.D., executive vice chancellor and dean of Arts & Sciences, then gave a presentation to the trustees on "strengthening faculty diversity," as part of the report of the Educational Policy Committee.

Other committee reports were received from compensation, audit, buildings and grounds, development, Hilltop finance, Medical finance, student affairs, and alumni board of governors.

Reviews of the year were presented by the undergraduate and graduate student representatives as well as the faculty representative.

Notables

Empirical legal studies focus of minicourse

"Conducting Empirical Legal Scholarship," a minicourse presented by the Center for Interdisciplinary Studies in the School of Law, will be held May 13-15 at the Charles F. Knight Executive Education Center.

This first-of-its-kind course will teach legal scholars how to design and conduct empirical studies and to use statistical software to manage and analyze data. The minicourse also will provide a foundation to pursue advanced statistical topics.

Among the topics to be covered during the minicourse is the role of theory in empirical research; research design; the logic of statistical inference; applied training in statistical software; public databases of interest to legal academics; and replications and data archiving.

Lee Epstein, Ph.D., the Edward Mallinckrodt Distinguished University Professor of Political Science in Arts & Sciences and professor of law, will serve as the principal instructor for the course. Epstein is one of the leading experts in the use of empirical methods for legal scholarship and is the author of the *Chicago Law Review* article, "The Rules of Inference."

Andrew D. Martin, Ph.D., assistant professor of political science and fellow in the Center in Political Economy at the University, also will lead the workshop.

Registration for the minicourse is $535 and includes accommodations, meals and course materials. Attendees are required to bring their own laptop.

For more information about the course or to register, call the Center for Interdisciplinary Studies at 935-7988 or e-mail center@wulaw.wustl.edu.

DAVID KILPER

Proposed sign A wood-and-paint mockup of a proposed sign stands on the Hilltop Campus at the corner of Forsyth and Skinker boulevards. The mockup, based on the sign at the corner of Forest Park Parkway and Big Bend Boulevard near Small Group Housing, is being used to gauge public reaction. Carpentry work for the sign was done under the supervision of Joe Reid; painting was done under the direction of Willie Heffernan and Clayton Utzler, all from the department of maintenance operations.

Obituary

Hasty, former housing coordinator

By Andy Clendennen

Natalie B. Hasty, former housing coordinator at the University, died Sunday, April 28, 2002, at her home. She was 61.

Hasty came to the University in the department of Apartment Referral Service in January 1977. Four months later, she was hired as the secretary of that department.

In 1983, Hasty's secretary position was upgraded to housing services coordinator, and her additional duties in the new position included assisting the manager of Millbrook Apartments.

In 1987, Hasty moved to the South 40 residence halls, where she became the housing services coordinator. There she coordinated the activities of maintenance, housekeeping, grounds and laundry services.

She stayed in that position until her retirement in 1995.

Survivors include a daughter, Laura Cohen Abbott of Coolidge, Ariz.; a stepdaughter, Linda Egelhoff of Jerseyville, Mo.; a brother, Eugene Levy of Conroe, Texas; two grandchildren; and two step-grandchildren.

Memorial contributions can be made to the American Cancer Society in care of Baue Funeral and Memorial Center, 3950 W. Clay St., St. Charles, MO 63301.

At presstime, it was learned that Paul Wright, a second-year student in the School of Law, died Sunday, May 5, 2002. A full obituary will be printed in a future issue of the *Record*.

Employment

Use the World Wide Web to obtain complete job descriptions. Go to **hr.wustl.edu (Hilltop)** or **medicine.wustl.edu/wumshr (Medical)**.

Hilltop Campus

Information regarding positions may be obtained in the Office of Human Resources, Room 130, West Campus. If you are not a WU staff member, call 935-9836. Staff members call 935-5906.

Research Technician 000256

Senior Medical Sciences Writer 010108

Reference/Subject Librarian (Psychology) 010241

Director of Annual Giving Programs 020064

Senior Site Operator 020065

Planned Giving Officer 020086

Director of Corporate Relations 020190

Deputized Police Officer 020203

Director, Univ. Development Project & Asst. Director, Principal Gifts 020208

Chem/Earth & Planetary Sciences Library Assistant 020213

Senior Medical News Writer 020217

Coordinator, Program for Technical Assistance 020218

Admissions Counselor 020223

Mechanic (Bargaining Unit Employee) 020227

Medical Assistant 020232

Lab Technician- Part Time 020234

Financial Aid Awards Associate 020238

Pharmacist 020249

Asst. Dir. of MBA Admissions 020250

Secretary/ Receptionist 020255

Registrar 020257

Department Secretary 020264

Administrative Aide (Professional Rater) 020265

LAN Engineer 020268

Graduate Tax & International Program Coord. 020276

Research Assistant 020278

Lab Technician III 020279

Administrative Secretary 020285

Government Grants Specialist II 020287

CFU Accountant (Reporting) 020288

Administrative Receptionist 020289

Business Development Manager 020290

Licensing Case Coordinator 020291

Library Technical Asst.- Art & Architecture 020292

Manager, MBA Advising 020293

Asst. Law Librarian Access Services/ Docs/Ref 020294

Coord., Alumni & Student Relations 020295

Project Coord., Depression in Comm LT Care 020296

Facility & Services Coordinator 020297

Assoc. Dir of Development, School of Business 020299

Administrative Assistant II 020301

Instructional Technologist 020303

Instructional Technology Specialist 020304

Administrative Assistant 020305

Instructional Technology Specialist 020306

Instructional Technology Specialist 020307

Transcript Coordinator 020308

LAN Engineer 020309

Administrative Aide 020311

Medical Campus

This is a partial list of positions at the School of Medicine. Employees: Contact the medical school's Office of Human Resources at 362-7196. External candidates: Submit résumés to the Office of Human Resources, 4480 Clayton Ave., Campus Box 8002, St. Louis, MO 63110, or call 362-7196.

Research Patient Coord./Profesional 021458

Reimbursement Supervisor 021474

Research Technician II 021475

Analyst: Financial/ Project Management 021476

Coordinator: Protocol 021478

Insurance Billing & Collection Asst. II 021479

Insurance Billing & Collection Asst. II 021481

Insurance, Billing, & Collections Asst. III 021482

RN-Research Patient Coord. 021483

Medical Transcriptionist 021484

Insurance Billing & Collections Asst. II 021485

Custodian 021486

Research Patient Coordinator 021287

Research Technician II 021488

Secretary II 021489

Research Technician II 021490

Research Technician II 021491

Postdoctoral Appointment Coordinator 021492

Animal Care Technician 021502

Stalker Prizes awarded by biology department

By Tony Fitzpatrick

Shreekrishna Akilesh and Maja Svrakic both have received the Department of Biology in Arts & Sciences' Stalker Prize.

The Stalker Prize is awarded to graduating seniors whose college career is distinguished by scholarship, service and breadth of interest. It is given in honor of Harrison Stalker, Ph.D., who was an evolutionary biologist, geneticist and a dedicated teacher who took exceptional interest in the arts.

Akilesh is a double major in biology and in ceramics in the School of Art. He graduates with a distinguished record of achievement in biology and is a member of both the Mortarboard and Alpha Epsilon Delta Pre-Health honorary societies.

Akilesh is an outstanding artist as well, receiving the Siroky Core Art Award from the School of Art and a University City Sculpture Series Award. His ceramic tile panels of herbal plants are on display in south St. Louis at the Grace Hill South Health Center, which provides inexpensive health care for poor immigrant St. Louis residents.

Akilesh is preparing for a career in dental medicine.

Svrakic demonstrated her breadth of interests and talents in high school in Belgrade, Yugoslavia, where she won awards in mathematics, in Serbian language and grammar, and in the applied arts.

Svrakic is completing a special major in biochemistry and molecular biology; on the Hilltop Campus, she works in the laboratory of Dan Kohl, Ph.D., professor of biology. She also works in a surgery laboratory at the School of Medicine and at the law library.

In addition to her course load and work schedule, Svrakic has an impressive record of community service, and she said she is proud to be able to assist Bosnian families at a local international center.

Svrakic will graduate with honors in biochemistry and molecular biology; with honors in Russian; and a minor in fine art. She will attend Columbia University Medical School this fall and plans to become a reconstructive plastic surgeon.

Wohl garage to add level

Starting May 13, the entire Wohl Student Center parking garage will be closed for the construction of an additional level of parking. The construction should be completed by Aug. 23.

Hampton

— from Page 2

in our proposal."

The Library of Congress, WGBH (Boston's PBS station), the University of Georgia and Indiana University — all of which have well-established film archives — also were in the running.

After the proposal was submitted, Baker, Posega and head of reference Rudolph Clay traveled to Boston to present the case. In early 2001, word came that the top choice was Washington University Libraries.

Johnston described the competition in sporting terms: "We were the underdogs. We were the Montreal Expos winning the World Series."

Posega said, "The decision-makers were impressed with our faculty members' commitment to using the collection in the classroom. They wanted to know that whoever got it didn't just put it on a shelf but would also do outreach, not only on campus but locally, nationally and internationally."

Chancellor Mark S. Wrighton said, "Henry Hampton was a distinguished graduate of Washington University whose work in film helped shape a better understanding of America. We are privileged to now be home to the film archives representing his work. I am grateful to Dean Shirley Baker for her leadership in bringing this important scholarly resource to us. It is a valuable addition and one which will be used for generations of scholars to come."

Campus Watch

The following incidents were reported to University Police **May 1-8.** Readers with information that could assist in investigating these incidents are urged to call **935-5555.** This information is provided as a public service to promote safety awareness and is available on the University Police Web site at **police.wustl.edu.**

May 1

3:44 p.m. — A student reported that he left his property unattended in Parking Lot No. 54 (between Lee and Umrath residence halls), and upon his return discovered that an unknown person had stolen his laptop computer and its carrying case. Total loss is estimated at $2,503.

May 2

12:52 p.m. — A student reported that an unknown person had stolen his silver Raleigh mountain bike from the bike rack on the north side of Myers Residence Hall. The theft occurred sometime in the past six weeks. Total loss is estimated at $400.

7:31 p.m. — A student reported that on May 1 she left her computer in the lobby of Dauten Residence Hall for a friend to put it in storage. The victim stated that on May 2, she was notified that her property might have been stolen. Total loss is estimated at $3,000.

May 3

10:27 a.m. — A student reported that her gray Specialized mountain bike was stolen from the bike rack on the north side of Myers Residence Hall. Total loss is estimated at $650.

Additionally, University Police responded to two auto accidents and one report each of property damage, suspicious persons, larceny and harassing e-mails.

Washington People

Encouraging, supporting research

A distinguished scientist, Theodore J. Cicero, Ph.D., also serves the University as vice chancellor for research

By Jim Dryden

He spent his childhood about a mile and a half from one of the most awe-inspiring sites in the world. Now, he oversees the awe-inspiring research enterprise that distinguishes Washington University.

The difference is he has a lot more contact with the research. Like those St. Louisans who never have been in the Arch, he didn't often get around to visiting "the falls."

"I grew up in Niagara Falls, New York," said Theodore J. Cicero, Ph.D., vice chancellor for research and professor of neuropharmacology in psychiatry in the School of Medicine. "On Sunday mornings in particular, with the windows open, you could hear the rushing of 'the falls.' But we avoided it because it was kind of a 'touristy' place, so I probably didn't see it more than about once a year."

Cicero's Niagara Falls was a thriving city of about 140,000 people. Now, the town is more of a bedroom community to Buffalo and only a shadow of its former self. Companies that located in the town used the falls to generate cheap electrical power, but most moved elsewhere to pursue cheap labor.

Unlike Niagara Falls, Cicero says the University is thriving, and he's a big part of that. As vice chancellor for research, he oversees the University's technology transfer efforts.

BOB BOSTON

Theodore J. Cicero, Ph.D. (right), vice chancellor for research and professor of neuropharmacology in psychiatry in the School of Medicine, and research associate Bob Meyer examine one of the laboratory rats they study to learn more about the impact of gender differences on drug-use behavior.

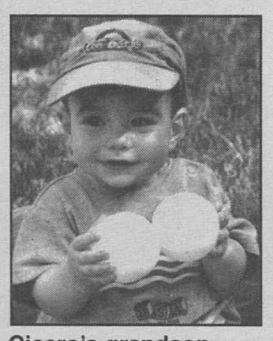
It's a long way from what he set out to do.

"Before I became vice chancellor for research, I didn't really know what technology transfer was," he confessed. "I knew it had something to do with the commercialization of intellectual property, but I'd never done anything like it."

In fact, when he first got into this line of work, his only goal was to pursue basic research.

"My father, Fiori, worked in a factory as a steelworker, with all of the ups and downs that go into that," Cicero recalled. "And he hated his job! That convinced me to pursue something that I enjoyed because getting paid for being miserable didn't seem like a very good trade-off to me."

Go West, young man



Cicero's grandson, Michael Joseph Nolan.

Cicero attended Villanova University in Philadelphia. He started in pre-med but finished with a degree in psychology. In between, he flirted with political science and minored in history. The courses he enjoyed most were those that posed questions that had no pat answers.

Eventually, he became intrigued by the brain, and after completing his undergraduate work, he packed his bags for West Lafayette, Ind., and Purdue University, where he worked in the fledgling field of neuropharmacology.

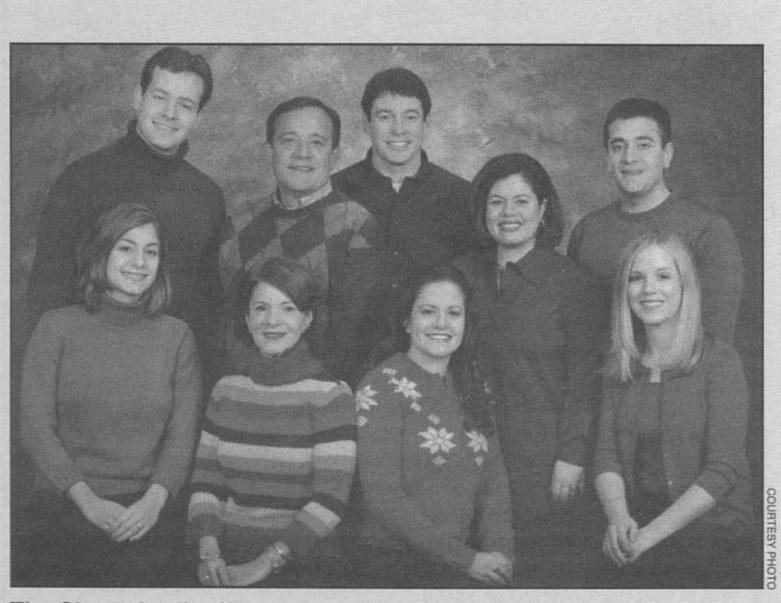
He had intended to return to the East Coast after his time at Purdue. He met his wife, Angela, at Villanova, and they married when he finished a master's degree and was preparing to work on his doctorate at Purdue. Both were East Coast people and lovers of the mountains and the seashore.

They didn't intend to stay in the Midwest, but then came an opportunity at Washington University for a postdoctoral fellowship. That was 1968, and he has never left.

He had started looking for a job elsewhere as his fellowship was ending, but Eli Robins, M.D., head of the Department of Psychiatry, urged him to stay.

"He told me he was going to appoint me as an instructor," Cicero recalled with a smile. "But the next day, Eli called me and said, 'What the hell is the matter with you? Don't you know how to negotiate? Your CV demands that you be an assistant professor, not an instructor! You've got to start standing up for yourself!'"

Cicero officially joined the faculty in 1970 as an assistant professor in the psychiatry department.



COURTESY PHOTO

The Cicero family: (front row, from left) Sandy McBride, Angela Cicero, Jennifer Cicero and Jan Cicero; (back row, from left) Tom McBride, Ted Cicero, James Nolan, Kelly Nolan and Mark Cicero.

Drug abuse research

Most of Cicero's research at Purdue had involved using animal models to look at brain areas involved in the reward pathways that motivate behaviors. That work led him into studies of drug abuse, and that became the primary theme of his research career.

The area fascinates him because of the way drugs seem to permanently alter the brain.

"In a drug addict, there are changes in the brain that appear to be permanent," he explained. "No matter how long you wait, there seems to be some permanent preference for drug use. Even if you have a 10- or 15-year delay, if you reinitiate the behavior, you can become addicted again, only at a much more rapid pace and at much lower doses."

One of Cicero's first important discoveries involved the effect of drug use on sex hormones. In studies of the effects of chronic drug use, particularly narcotics, on receptors involved in hormone release, he was looking at the secondary sex organs in male rats — the seminal vesicles and the prostate — because they were rich in a type of receptor he hoped to study.

But after administering narcotic drugs to the rats, Cicero had a difficult time even finding the tissues he hoped to study. They were about a quarter the size of the secondary sex organs in normal rats.

It turned out that the narcotic drugs — as well as other abused substances, such as alcohol — were depressing testosterone levels in the rats.

"It was a totally accidental finding, but it became the pursuit of my career," he said. "From that discovery, we were able to connect the dots, and from these studies it was ultimately learned that endogenous opioid peptides were integrally involved in the regulation of the hypothalamic-pituitary-gonadal axis, a system that helps explain how the brain controls and interacts with hormones throughout the body."

Animal studies

Cicero does most of his research in animals because there are no social and demographic variables that contribute to drug use in humans. Studying a drug's effects in animals allows him to concentrate on solely biological factors.

In recent research, for example, he has identified major differences in how drugs affect male vs. female rats.

"It's the sort of study that is virtually impossible in human subjects," he said. "There are just too many social stereotypes and expectations that have to be filtered out."

Over the years, his work on the biological factors involved in drug abuse has landed Cicero on many committees and study groups that look at the impact of drug use and study various drugs to determine their abuse potential.

"I've known Ted for years, through work with organizations such as the College on Problems with Drug Dependence, the Food and Drug Administration and the National Institute on Drug Abuse," said Charles O'Brien, M.D., Ph.D., professor of psychiatry at the University of Pennsylvania School of Medicine. "He has a gift for coordinating the work of disparate people that makes him an asset to any research or administrative endeavor."

Because Cicero was his department's primary user of lab rats, he ended up in charge of the psychiatry animal facility. Later, when the School of Medicine decided to centralize and upgrade its animal program, Cicero got the call.

He organized faculty committees, spoke with architects, got input from veterinarians and others and eventually oversaw the consolidation of the school's 30-35 animal facilities into two buildings that became "state-of-the-art" facilities.

"When he first became dean, Bill Peck and I met, and he was dedicated to making this a first-rate program," Cicero said. "I think that's what we did."

Research vice chancellor

Cicero's success in organizing faculty and using their input to design the animal program made him a front-runner when the post of vice chancellor for research was created.

"Research truly is one of the most regulated industries in the United States," he said. "There are animal issues, human-studies issues, the potential for conflict of interest. My job is to make sure we are in full compliance with the regulations in such a way that we don't interfere with our core mission, and that is letting our investigators do their research."

As he did when organizing the animal-care program, Cicero continues to rely on multiple faculty and administrative committees. They look at regulations and develop strategies to ensure that the University research effort is in compliance. The other part of the job involves making sure that promising new research has a life beyond the lab.

"Ted Cicero is a valued colleague who has greatly enhanced the University's efforts to bring the benefits of research to society," said Chancellor Mark S. Wrighton. "He is a distinguished research scientist himself and has an excellent grasp of the importance of technology transfer and the present and future opportunities of the modern research university."

Theodore J. Cicero, Ph.D.

Born: Aug. 14, 1942, in Niagara Falls, N.Y.

Education: B.S. in psychology, Villanova University, 1964; M.S. in physiological psychology, Purdue University, 1966; Ph.D. in neuropharmacology, Purdue University, 1969

University positions: Professor of psychiatry and professor of neurobiology; vice chancellor for research

Family: Wife, Angela; children, Kelly Nolan, Mark, Sandy McBride and Jennifer; grandson, Michael Joseph Nolan

Hobbies: Babysitting grandson, "I love golf, but I never have the time," going to the mountains and the seashore, former Little League coach and parent-teacher organization president

"My greatest pleasure right now is visiting my kids or just having them around. Actually, we added a swimming pool at our house three years ago, and my wife said, 'Why in the world are we doing this now?' And I said, 'It'll make sure the kids come home on weekends.' And sure enough, when the pool opens, my kids come home."